

2002 Utah Crash Summary



Robert L Flowers, Commissioner
Department of Public Safety
4501 South 2700 West
Salt Lake City, Utah 84119

David Beach, Director
Highway Safety Office
5263 So. Commerce Dr. #202
Salt Lake City, Utah 84107

Produced by:
Utah CODES (Crash Outcome Data Evaluation System)
Intermountain Injury Control Research Center
University of Utah School of Medicine

Table of Contents

Introduction	5
Definitions	6
Executive Summary	8
Crash Synopsis	10
Utah Crash Clock	12
Utah Motor Vehicle Crash Injury Pyramid	13

Crash Topics

Section 1: Total Crashes, Injury Crashes and Fatal Crashes, 2002

Utah Crashes 1972 – 2002	1.2
Injury and Fatal Crash Trends 1972 – 2002.....	1.4
Crash Severity	1.5
Crashes by County	1.6
Crashes by City	1.9
Crash Times.....	1.10
Holiday Crashes 2000 –2002	1.13
Crash Characteristics.....	1.14
Crash Violations and Contributing Factors.....	1.16
Drivers Involved in Crashes.....	1.18
Out of State Drivers Involved in Utah Crashes.....	1.20

Section 2: Crash Participants, Injured Persons and Fatalities, 2002

Crash Injured Persons and Fatalities 1972 – 2002	2.2
Crash Injury Severity	2.4
Crash Participants, Injured Persons and Crash Fatalities by County	2.5
Characteristics of Crash Participants.....	2.8

Section 3: Total Crashes, Injury Crashes and Fatal Crashes Involving Pedestrians, 2002

Crashes Involving Pedestrians 1993 - 2002	3.2
Pedestrian Crash Severity.....	3.3
Pedestrian Crashes by County.....	3.4
Pedestrian Crash Times	3.6
Pedestrian Crash Characteristics	3.9
Pedestrian Crash Violations and Contributing Factors	3.10
Drivers Involved in Pedestrian Crashes	3.12
Pedestrian Injury Severity	3.14
Pedestrians by County	3.15
Pedestrian Characteristics	3.16

Section 4: Bicyclist-Motor Vehicle Total Crashes, Injury Crashes and Fatal Crashes, 2002

Bicyclist-Motor Vehicle Crashes 1993 - 2002..... 4.2
Bicyclist-Motor Vehicle Crash Severity 4.3
Bicyclist-Motor Vehicle Crashes by County 4.4
Bicyclist-Motor Vehicle Crash Times..... 4.6
Bicyclist-Motor Vehicle Crash Characteristics..... 4.9
Bicyclist-Motor Vehicle Crash Violations and Contributing Factors 4.10
Drivers Involved in Bicyclist-Motor Vehicle Crashes 4.12
Bicyclist Injury Severity..... 4.14
Bicyclists by County 4.15
Bicyclist Characteristics..... 4.16

Section 5: Motorcycle Total Crashes, Injury Crashes and Fatal Crashes, 2002

Motorcycle Crashes 1993 - 2002 5.2
Motorcycle Crash Severity 5.3
Motorcycle Crashes by County 5.4
Motorcycle Crash Times 5.5
Motorcycle Crash Characteristics 5.8
Motorcycle Crash Violations and Contributing Factors 5.10
Motorcycle Drivers Involved in Crashes 5.12
Motorcyclist Injury Severity 5.14
Motorcyclists by County 5.15
Motorcyclist Characteristics..... 5.16

Section 6: Total Crashes, Injury Crashes and Fatal Crashes Involving Teenage Drivers, 2002

Teenage Driver Crashes 1993 - 2002..... 6.2
Teenage Driver Crash Severity 6.3
Teenage Driver Crashes by County 6.4
Teenage Driver Crash Times..... 6.5
Teenage Driver Crash Violations and Contributing Factors 6.8
Teenage Driver Crash Characteristics..... 6.10
Teenage Driver Characteristics 6.11
Injury Severity of Occupants in Vehicles of Teenage Drivers..... 6.12
Occupants in Vehicles of Teenage Drivers 6.13
Graduated Licensing Law 6.15

Section 7: Alcohol and Other Drug-Related Total Crashes, Injury Crashes and Fatal Crashes, 2002

Alcohol and Other Drug-Related Fatal Crashes and Fatalities 1993 - 20027.2
Alcohol and Other Drug-Related Crash Severity7.3
Alcohol and Other Drug-Related Crashes by County 7.4
Alcohol and Other Drug-Related Crash Times 7.5
Impaired Drivers Involved in Alcohol and Other Drug-Related Crashes 7.8
Alcohol and Other Drug-Related Crash Participants Injury Severity 7.9
Blood Alcohol Concentration Levels of Drivers Involved in
Fatal Alcohol-Related Crashes 7.10

Section 8: Speed-Related Total Crashes, Injury Crashes and Fatal Crashes, 2002

Speed-Related Crashes 1993 - 20028.2
Speed-Related Crash Severity8.3
Speed-Related Crashes by County8.4
Drivers Involved in Speed-Related Crashes 8.5
Speed-Related Crash Participants Injury Severity..... 8.6

Section 9: Occupant Protection, 2002

Occupant Protection 1993 - 2002 9.2
Seatbelt Use 9.3
Seatbelt Use by Age and County9.4
Seatbelt Use by Gender, Age and Occupant Placement.....9.6
Children and Restraint Use.....9.8
Ejection by Seatbelt Use.....9.9
Air Bags.....9.10
Safety Restraint Laws and Recommendations 9.11

Introduction

The Utah Crash Summary produced annually identifies and describes the trends and effects of traffic crashes in Utah. The statistics within the Utah Crash Summary describe factors that contribute to the occurrence of crashes, and crash-related injuries and fatalities. This report is designed to heighten awareness about traffic safety by allowing safety program specialists, public health personnel, and other interested individuals to identify areas where programs may be focused in an effort to reduce traffic-related injuries and fatalities.

The data for this summary is derived from Utah crash reports. These reports are completed by law enforcement officers throughout the state who collect data from crash scenes on public roadways. Information is collected when a crash involves injuries, fatalities, or at least \$1,000 property damage; when the jurisdiction in which the crash occurs requires it; or when the responding officer determines that a report is warranted.

Crash reports are forwarded to the Utah Department of Transportation (UDOT) for central collection. UDOT reviews the crash report forms and enters the data into a database called the Crash Analysis Reporting System (CARS). Beginning in 1997, all private property crashes were excluded from CARS. Since private property crashes accounted for approximately 10% of crashes in previous years, the decrease in crashes since 1997 is due in part to the exclusion of private property crashes. Additional information is collected on fatal crashes and compiled into a separate database, the Fatality Analysis Reporting System (FARS). This database was used for the reporting of alcohol and other drug-related fatal crashes and fatalities.

This report was prepared by the Utah Crash Outcome Data Evaluation System (CODES) project located at the Intermountain Injury Control Research Center, University of Utah School of Medicine. For more information, please contact:

Jackie Haus
Traffic Records Coordinator
Utah Crash Outcome Data Evaluation System (CODES)
615 Arapeen Drive, Suite 202
Salt Lake City, Utah 84108
(801) 581-6410

This crash summary is available on the internet at <http://www.utcodes.org> and at <http://highwaysafety.utah.gov>

Definitions

Alcohol and Other Drug-Related Crash - A crash in which the investigating officer cited a driver for "driving under the influence" (DUI), or coded a contributing factor of "DUI," "had been drinking," or "under the influence of drugs." Since breath test or blood test results may not always be used to determine a person's alcohol and other drug content, these crashes may be underestimated.

Alcohol and Other Drug-Related Injury Crash - A non-fatal crash in which one or more persons are injured and in which the investigating officer cited a driver for "driving under the influence" (DUI), or coded a contributing factor of "DUI," "had been drinking," or "under the influence of drugs." Since breath test or blood test results may not always be used to determine a person's alcohol and other drug-related content, these injury crashes may be underestimated.

Alcohol and Other Drug-Related Fatal Crash - A crash resulting in one or more deaths and in which the drug / alcohol test was positive (blood or breath test) for any driver, pedestrian, or bicyclist involved in the crash. Alcohol and other drug-related fatal crash information is obtained as part of the FARS database.

Alcohol and Other Drug-Related Injury - A non-fatal injury resulting from an alcohol and other drug-related crash. Since breath test or blood test results may not always be used to determine alcohol and other drug-related crashes, these injuries may be underestimated.

Alcohol and Other Drug-Related Fatality - A death resulting from an alcohol and other drug-related crash. Since breath test or blood test results may not always be used to determine alcohol and other drug-related crashes, these fatalities may be underestimated.

Crash Participant - A person who is involved in a crash, including motor vehicle occupants, pedestrians and bicyclists.

Contributing Factor - The circumstances reported by the investigating officer surrounding a crash that contributed to the crash or the crash severity. Examples are "speed too fast," "fatigue," and "had been drinking."

Fatal Crash - A motor vehicle crash on public roadways resulting in one or more deaths. The death must occur within 30 days of the crash.

Injury Crash - A crash in which one or more persons sustained a possible injury, probable injury, or an incapacitating injury as recorded by the investigating officer.

Large Truck Crash - A crash involving one or more vehicles of the following type: (1) a 2-axle, 6-tire single unit truck or van, (2) a 3 or more axle single unit truck, (3) a single unit truck with one or more trailers, (4) a bobtail (power unit only), (5) a tractor with one or more trailers, (6) a concrete mixer, (7) a garbage/ dump truck, (8) an auto transporter, (9) a flatbed truck, and (10) a cargo tank.

Million Vehicle Miles Traveled - The number of miles traveled in a year for a given area, reported in millions. This is calculated by the Utah Department of Transportation.

Motorcycle Crash - A crash involving one or more motorcycles or mopeds.

Motor Vehicle Crash - A crash that involves a motor vehicle on public roadways.

Out of State Driver - A driver licensed from a state other than Utah who is involved in a crash. Some of these drivers may reside in the state of Utah, but have not yet applied for a Utah driver's license.

Seatbelt Use - Seatbelt use is reported for occupants in a passenger car, a light truck or van. Occupants are coded as wearing a seatbelt if they reported using a shoulder/lap belt, lap belt or a child safety seat at the scene of the crash (for the purpose of this report, occupants using only a shoulder strap were reported to be unbelted). In the majority of cases, seatbelt use as recorded by the investigating officer is self-reported by the crash occupant. It is possible that crash occupants may report using a seatbelt when they were not in order to avoid a citation or fine, thus over-inflating the seatbelt use rate. In the case of fatal or severe injury crashes the officer will determine the seatbelt use.

School Bus Crash - A crash involving one or more school buses.

Speed-Related Crash - A crash where the investigating officer cites one or more drivers for "speeding", or codes a contributing factor of "speed too fast".

Teenage Driver - A 15 to 19 year old driver.

Teenage Driver Crash - A crash involving a teenage driver.

Teenage Driver Injury Crash - An injury crash involving a teenage driver.

Teenage Driver Fatal Crash - A fatal crash involving a teenage driver.

Vehicular Homicide - Vehicular homicide, a third degree felony, is when a driver operates a motor vehicle while having a blood alcohol content of 0.08% or greater by weight, or while under the influence of alcohol, any drug, or the combined influence of alcohol or any drug, to a degree that renders the driver incapable of safely operating the vehicle, and causes the death of another by operating the vehicle in a negligent manner.

Violation - The traffic violation that a driver was cited for at the scene of the crash. These include both moving and non-moving violations.

Executive Summary

Death and disability associated with motor vehicle crashes continues to be a problem in the United States, as well as in the state of Utah. Great strides have been made to reduce the motor vehicle crash rate in Utah, and since 1971, the injury and fatal crash rates have steadily declined. In fact, the Utah 2002 crash rate of 225.2 per 100 million vehicle miles traveled represents a 5% decrease from the 2001 rate, and is the lowest crash rate in 30 years. This reduction can be attributed to a variety of factors including local and statewide traffic safety programs that have increased awareness of traffic safety issues, legislation mandating seatbelt use and graduated driver licensure, increased DUI legislation and enforcement, better engineered roadways, and safer vehicles. Despite this progress, motor vehicle crashes continue to take their toll. In Utah, a crash occurs every 10 minutes, a person is injured in a crash every 19 minutes, and a person dies every 30 hours from a motor vehicle crash.

In 2002, there were 53,370 crashes in Utah accounting for 30,433 injured persons and 329 fatalities. Overall, crash participants tended to be male and in the 15 to 24 year age group. Most crashes occurred in urban areas; however, rural crashes were 3 times more likely to result in a fatality than crashes occurring in urban areas. Increased speeds and longer response time for emergency medical services in the rural areas may account for the rural/urban difference in fatal crash rates. Rear-end collisions were the leading collision type, but head-on collisions were 14 times more likely to result in a fatality than other collisions, and single vehicle rollovers were 12 times more likely to result in a fatality than other collisions. While passenger cars and light truck/van/SUV's accounted for the majority of vehicles involved in Utah crashes, motorcycle- as well as large/semi truck-crashes were more likely to be fatal than crashes involving other vehicles.

Pedestrians, bicyclists, and motorcyclists involved in a motor vehicle crash are at high risk from suffering injury or death. In 2002, 96% of pedestrians, 93% of bicyclists, and 89.7% of motorcyclists involved in a motor vehicle crash experienced an injury or death compared to 37.2% of all motor vehicle crash participants. Pedestrians, bicyclists, and motorcyclists have little or no physical barrier between themselves and a motor vehicle or roadway, thus resulting in the high injury and death rate. As with seatbelts, helmets have proven to reduce severe injury and death for bicyclists and motorcyclists. Unfortunately, only 37.4% of motorcyclists involved in a crash were reported to be wearing a helmet.

Teenage drivers are another group that are of concern in Utah because of their high crash rates. Every 34 minutes, a crash occurs in Utah that involves a teenage driver. In 2002, approximately one-third of total crashes involved teenage drivers. Lack of driving experience may contribute to the higher crash rates for teenage drivers. A graduated driver licensing law was passed in Utah in 1998 to help address some of these concerns. The law requires teenage drivers to gain more supervised driving experience before receiving their driver license, and places restrictions on the time of day teenage drivers are allowed to drive. Because crashes where the teenage driven vehicle contained four or more occupants were three times as likely to be fatal than crashes involving teenage driven vehicles with fewer occupants, local traffic safety entities focused legislative efforts on creating a more comprehensive graduated driver licensing law. The law was modified in 2000 to include passenger limitations.

Speeding and impaired driving are contributing factors that led to severe injury or death in motor vehicle crashes. In 2002, there were over 7,235 speed-related crashes resulting in 86 fatalities. The majority of the speed-related crashes occurred on a highway. In 2002, 2,102 crashes were attributed to alcohol and other drug involvement resulting in 61 fatalities. This was a 18% increase in alcohol and other drug-related crash fatalities from the year 2002. While alcohol and drug-related crashes are of great concern nationwide, speeding appears to be the leading factor associated with crash fatalities and may warrant increased attention in Utah.

Seatbelts have been shown to save lives and decrease the severity of injuries in motor vehicle crashes. In Utah, unbelted occupants were 20.4 times more likely to sustain a fatal injury than belted occupants. Overall, 87.2% of the occupants involved in a crash in 2002 reported using a seatbelt, but seatbelt use rates varied by age and type of crash. Occupants in the age group 70-74 years had the highest percentage of seatbelt use (97.1%), while those aged 10 to 14 years experienced the lowest percentage of use (91.8%). Unfortunately, the rate for seatbelt use for fatalities was much lower; only 46% of the occupants who died in a crash were reported as wearing a seatbelt. In addition, the majority of ejected occupants (who often suffer severe injury or death) were not wearing a seatbelt. Utah law requires all children under the age of 19 years to be properly restrained in a motor vehicle. Children under the age of 5 years must ride in an approved child safety seat, and children aged 5 to 19 years must ride in an approved child safety seat or seatbelt.

Motor vehicle crashes in Utah continue to be a leading cause of death, and disability in the state. Of particular concern are crashes involving teenage drivers, pedestrians, and motorcyclists as well as speed-related crashes. Many advocacy groups and dedicated individuals have worked together to address these and other traffic-safety-related issues. However, an overwhelming number of people are affected by motor vehicle crashes, and traffic safety needs to remain a top priority in Utah.

Crash Synopsis

2002

Crashes, Injury Crashes and Fatal Crashes

- 53,370 motor vehicle crashes were reported, a less than 1% decrease from 2001.
- Over 19,552 injury crashes were reported, almost the same as 2001.
- 276 fatal motor vehicle crashes were reported in 2002, nearly a 20% increase from 2001.
- Saturday had the highest number of fatal crashes.
- The July 4th holiday weekend had the highest fatal crash rate per day among holidays.
- Vehicle roll over collisions were 12 times more likely to be fatal than other collision types.
- Drivers cited for driving under the influence were 5 times more likely to be involved in a fatal crash than drivers cited for other violations.
- Drivers between the age of 20 and 24 years old had the highest crash, injury crash, and fatal crash rates per licensed driver.
- Out of state drivers were involved in 9.1% of crashes and 24.1% of fatal crashes.

Crash Participants, Injured Persons and Fatalities

- 329 crash related fatalities occurred, an 8% increase from 2001.
- For every 71 persons injured in a motor vehicle crash, one person was killed.
- Front seat passengers (excluding drivers) were 1.3 times more likely than back seat passengers to sustain a fatal injury.
- Crash participants over the age of 65 years were 3 times more likely to be killed than all other age groups.

Pedestrian Crashes

- 636 pedestrians were involved in pedestrian-motor vehicle crashes.
- 24 pedestrians were killed, a 6% decrease from 2001.
- Almost half (46.2%) of the pedestrians involved in a motor vehicle crash were under the age of 20 years.
- 19.1% of the drivers involved in pedestrian crashes were aged 20 to 24 years.

Bicyclist-Motor Vehicle Crashes

- 633 bicyclists were involved in motor vehicle crashes, a 4% decrease from 2001.
- 4 bicyclists were killed.
- 29% of the motor vehicle drivers involved in bicyclist-motor vehicle crashes were 15 to 24 years of age.

Motorcycle Crashes

- 789 crashes involved motorcycles, an 4% increase from 2001.
- 19 motorcycle crashes were fatal.
- 90.1% of the motorcyclists in crashes were male.
- 37.4% of motorcyclists involved in crashes were wearing a helmet.

Crash Synopsis

2002

Teenage Driver Crashes

- 15,310 crashes and 56 fatal crashes involved a teenage driver.
- Almost half (47.7%) of all teenage drivers involved in a crash received a citation for a violation.
- Of the 56 teenager driver fatal crashes 3 involved alcohol or other drugs.
- Teenage driver crashes that the teenage driven vehicles had 4 or more occupants were 5 times more likely to be fatal than crashes involving teenage driven vehicles with fewer occupants.

Alcohol and Other Drug-Related Crashes

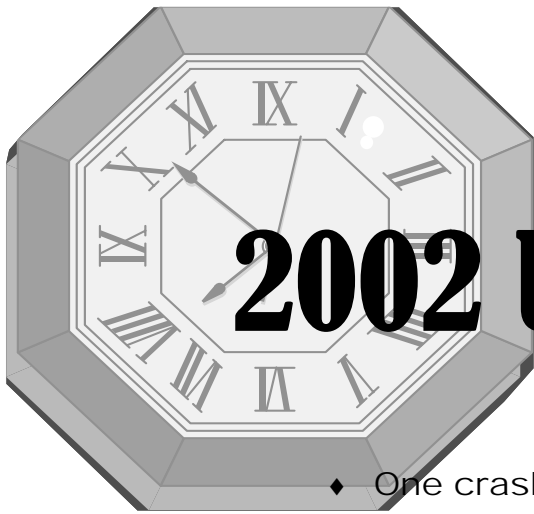
- 2,102 (4%) crashes and 61 (21%) fatal crashes involved alcohol or other drugs.
- 72 fatalities were a result of alcohol and other drug-related crashes, an 18% increase from 2001.
- Male drivers were involved in almost three-quarters (73.2%) of alcohol and other drug-related crashes.
- 10.4% of the impaired drivers were under the age of 21 years.
- 90.4% of drunk drivers involved in fatal crashes had a blood alcohol level above the legal limit of 0.08.

Speed-Related Crashes

- 7235 (15%) crashes and 86 (31%) fatal crashes were speed-related.
- 86 people were killed in speed-related crashes.
- The highest percentage of drivers involved in speed-related crashes were aged 15 to 19 years for both male and female drivers.

Occupant Protection

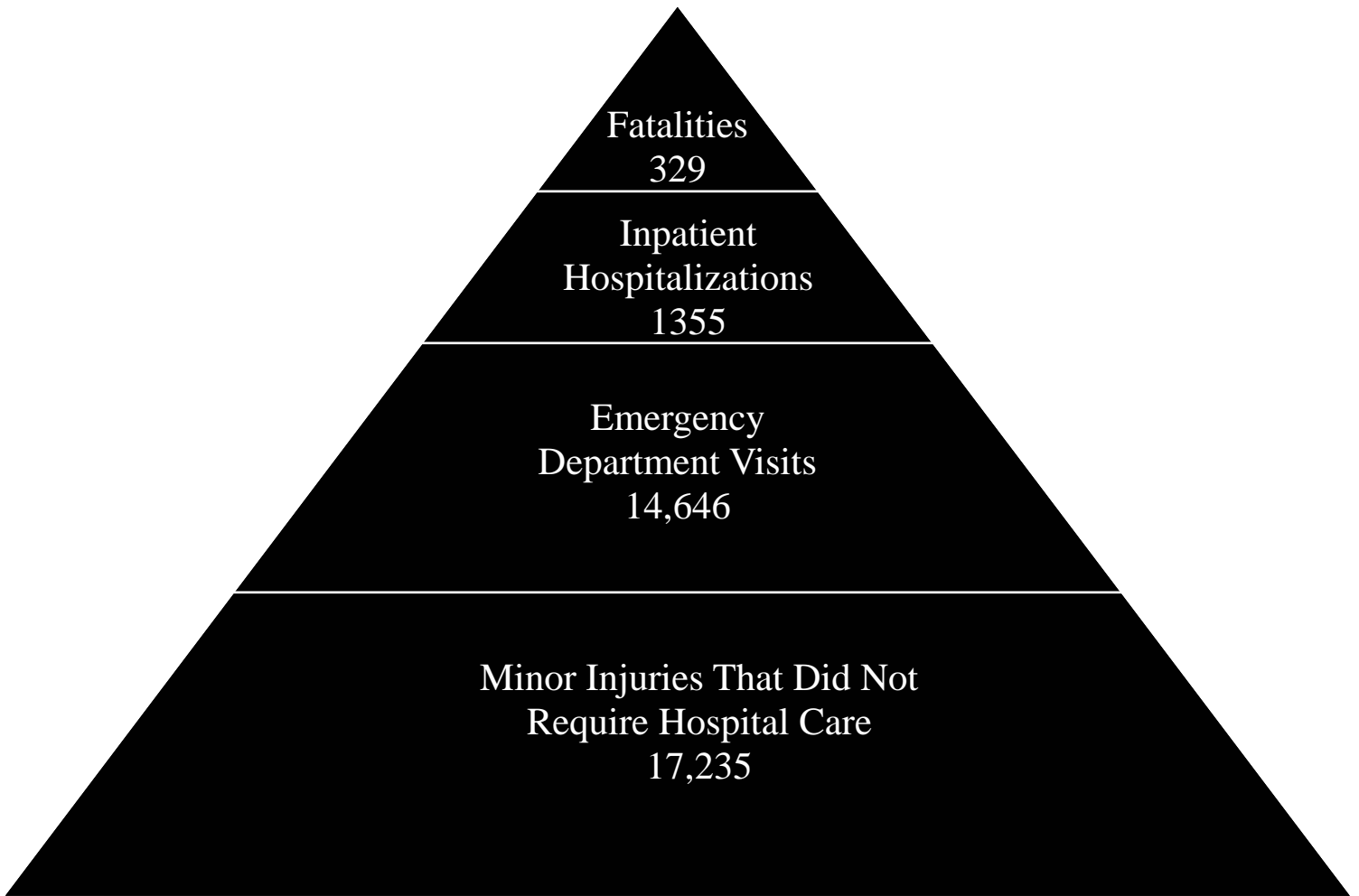
- 96.5% of all crash participants, 87.2% of injured crash participants and 46% of the fatalities were reported as using a seatbelt.
- Unbelted occupants were 20.4 times more likely to be killed than belted occupants.
- 92.2% of the ejected passengers were not wearing a seatbelt.
- Children under the age of 2 years were 3.3 times more likely to be in a child safety seat than children between the ages of 2 to 4 years.
- Children in the back seat were 4.2 times more likely to be in a child safety seat than children in the front seat.



2002 Utah Crash Clock

- ◆ One crash occurred every 10 minutes
- ◆ One person was injured in a crash every 27 minutes
- ◆ One person died in a crash every 32 hours
- ◆ One pedestrian was in a crash every 14 hours
- ◆ One pedestrian fatality occurred every 15 days
- ◆ One bicyclist was in a crash every 13 hours
- ◆ One motorcyclist was in a crash every 11 hours
- ◆ One motorcycle fatality occurred every 19 days
- ◆ One teenage driver crash occurred every 34 minutes
- ◆ One teenage driver fatal crash occurred every 6½ days
- ◆ One alcohol and other drug-related crash occurred every 4 hours
- ◆ One speed-related crash occurred every hour
- ◆ One unbelted occupant died every 3 days

Utah Motor Vehicle Crash Injury Pyramid 2002



Note: Data based on crash records from the year 2002 and emergency department visits and inpatient stays which are estimated based on Utah CODES motor vehicle crash outcome research from 1996 to 2001.

Section 1

Crashes 2002

Utah Crashes 1972 – 2002.....	1.2
Injury and Fatal Crash Trends 1972 – 2002.....	1.4
Crash Severity.....	1.5
Crashes by County	1.6
Crashes by City.....	1.9
Crash Times	1.10
Holiday Crashes 2000 - 2002	1.13
Crash Characteristics.....	1.14
Crash Violations and Contributing Factors.....	1.16
Drivers Involved in Crashes	1.18
Out of State Drivers Involved in Utah Crashes	1.20

TABLES

Table 1.01 Crashes, Utah 1972-2002
Table 1.02 Crashes by County, Utah 2002
Table 1.03 Crash Rates of Cities with More than 200 Crashes, Utah 2002
Table 1.04 Hour of Crashes, Utah 2002
Table 1.05 Month of Crashes, Utah 2002
Table 1.06 Day of Week for Crashes, Utah 2002
Table 1.07 Fatal Crashes by Holiday, Utah 2000 - 2002
Table 1.08 Types of Crashes, Utah 2002
Table 1.09 Urban/Rural Location of Crashes, Utah 2002
Table 1.10 Collision Description of Crashes, Utah 2002
Table 1.11 Type of Vehicles Involved in Crashes, Utah 2002
Table 1.12 Violations for Crashes, Utah 2002
Table 1.13 Contributing Factors of Crashes, Utah 2002
Table 1.14 Age of Drivers Involved in Crashes, Utah 2002
Table 1.15 Gender of Drivers Involved in Crashes, Utah 2002
Table 1.16 State of Licensure for Drivers Involved in Crashes, Utah 2002
Table 1.17 State of Licensure for Drivers by County, Utah 2002

FIGURES

Figure 1.01 Injury Crash Rates per Miles Traveled, Utah 1972 –2002
Figure 1.02 Fatal Crash Rates per Miles Traveled, Utah 1972 –2002
Figure 1.03 Severity of Crashes as Reported by Police, Utah 2002
Figure 1.04 Injury Crashes by County, Utah 2002
Figure 1.05 Fatal Crashes by County, Utah 2002
Figure 1.06 Hour of Injury Crashes and Fatal Crashes, Utah 2002
Figure 1.07 Day of Week for Crashes, Utah 2002
Figure 1.08 Age of Drivers Involved in Crashes, Utah 2002
Figure 1.09 Age of Driver by Crash Rate per Licensed Driver, Utah 2002

Utah Crashes 1972 - 2002

From 1972 to 2002, over 1.3 million motor vehicle crashes occurred in Utah. Approximately 426,000 of the crashes involved injuries and 8,040 involved fatalities. During this 30-year time span, the total crash rates, injury crash rates, and fatal crash rates have all decreased significantly (Table 1.01).

In 2002, the total crash rate per 100 million vehicle miles traveled in Utah was 218; a 3% decrease from the 2001 rate. The injury crash rate decreased by 3% from the 2001 rate, while the fatal crash rate for 2002 remained the same as 2001.

Several factors may account for these changes. One may be the changes in the crash reporting criteria. Most notably, 1997 was the first year crashes occurring on private property were excluded. This change in the reporting system could account for the decrease in total crashes and injury crashes from the previous years. It would not impact the reporting of fatal crashes because all fatal crashes are reported regardless of whether they occur on private property or not. Another factor may be improvements in the medical system. As more lives are saved, the number of fatalities may be reduced, but the number of injuries reported may increase. Other factors that impact the decrease in the number of crashes, as well as the severity of crash injuries include: increased seatbelt use; improvements in the design of the roadways and vehicles; legislation including lower speed limits, impaired driving laws, and graduated driver licensing laws.

It is important to note that when doing comparisons between years, rates should be used rather than the crude number of events. Rates provide a more accurate picture of trends over time. The rates used in this report are based on the annual vehicle miles traveled. The Utah Department of Transportation supplies the number of vehicle miles traveled each year.

Note: All data in section 1 are based on crashes, not person statistics. Person data are reported in section 2.

Table 1.01 Crashes, Utah 1972-2002

Year	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Crashes	Rate per 100 MVMT	Crashes	Rate per 100 MVMT	Crashes	Rate per 100 MVMT	Crashes	Rate per 100 MVMT
1972	27,914	400.5	11,630	166.9	312	4.5	39,856	571.9
1973	26,220	360.5	11,710	161.0	304	4.2	38,234	525.6
1974	20,637	276.7	10,560	141.6	204	2.7	31,401	421.1
1975	24,740	311.5	11,441	144.1	245	3.1	36,426	458.7
1976	22,435	266.4	11,685	138.8	225	2.7	34,345	407.9
1977	25,562	282.3	12,652	139.7	310	3.4	38,524	425.5
1978	28,946	294.6	13,423	136.6	315	3.2	42,684	434.4
1979	26,732	272.5	13,449	137.1	287	2.9	40,468	412.5
1980	21,589	202.8	11,701	109.9	292	2.7	33,582	315.5
1981	23,844	222.2	11,824	110.2	321	3.0	35,989	335.3
1982	26,425	241.4	11,504	105.1	263	2.4	38,192	348.9
1983	28,419	253.1	12,317	109.7	253	2.3	40,989	365.1
1984	33,738	289.8	13,477	115.8	274	2.4	47,489	407.9
1985	33,684	279.9	13,917	115.6	270	2.2	47,871	397.8
1986	32,426	264.6	13,988	114.2	276	2.3	46,690	381.0
1987	33,386	263.3	13,599	107.3	271	2.1	47,256	372.7
1988	35,614	268.5	13,377	100.9	258	1.9	49,249	371.3
1989	37,110	266.7	13,941	100.2	269	1.9	51,320	368.8
1990	37,823	258.2	14,632	99.9	236	1.6	52,691	359.8
1991	33,443	217.3	13,763	89.4	229	1.5	47,435	308.2
1992	34,760	213.7	15,665	96.3	235	1.4	50,660	311.5
1993	38,357	224.9	17,088	100.2	259	1.5	55,704	326.6
1994	40,243	222.6	18,726	103.6	303	1.7	59,272	327.8
1995	37,532	199.8	19,828	105.5	284	1.5	57,644	306.8
1996	40,225	207.0	20,988	108.0	292	1.5	61,505	316.5
1997	33,512	164.2	21,131	103.5	309	1.5	54,952	269.3
1998	34,337	161.7	19,427	91.5	308	1.5	54,072	254.6
1999	32,971	150.8	19,513	89.2	318	1.5	52,802	241.5
2000	33,269	147.8	19,564	86.9	318	1.4	53,151	236.0
2001	33,113	141.5	19,332	82.6	259	1.1	52,704	225.2
2002	33,542	137.2	19,552	80.0	276	1.1	53,370	218.4
Total	972,548	221.2	426,520	97.0	8,040	1.8	1,340,453	304.9

*MVMT—million vehicle miles traveled

Injury and Fatal Crashes Trends 1972 - 2002

Figure 1.01 reflects the decreasing trend in injury crash rates per 100 million vehicle miles traveled (MVMT) from 1972 to 2002. The injury crash rates were highest in the early 1970s. A large decrease occurred in 1980, followed by a slight increase between 1990 to 1997.

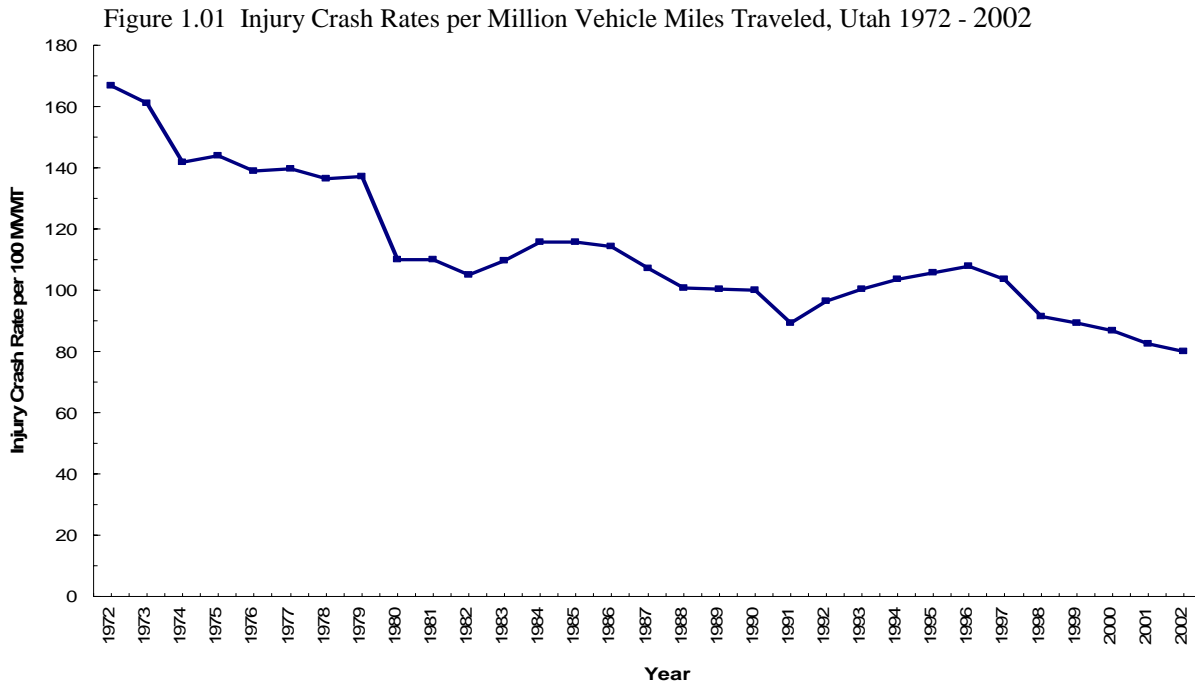
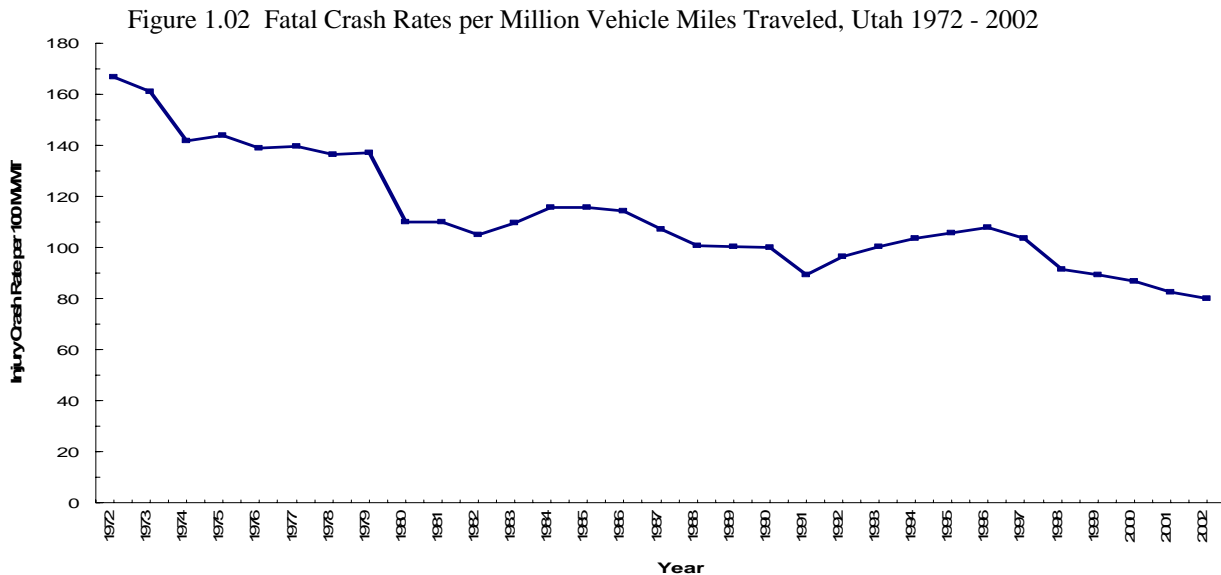


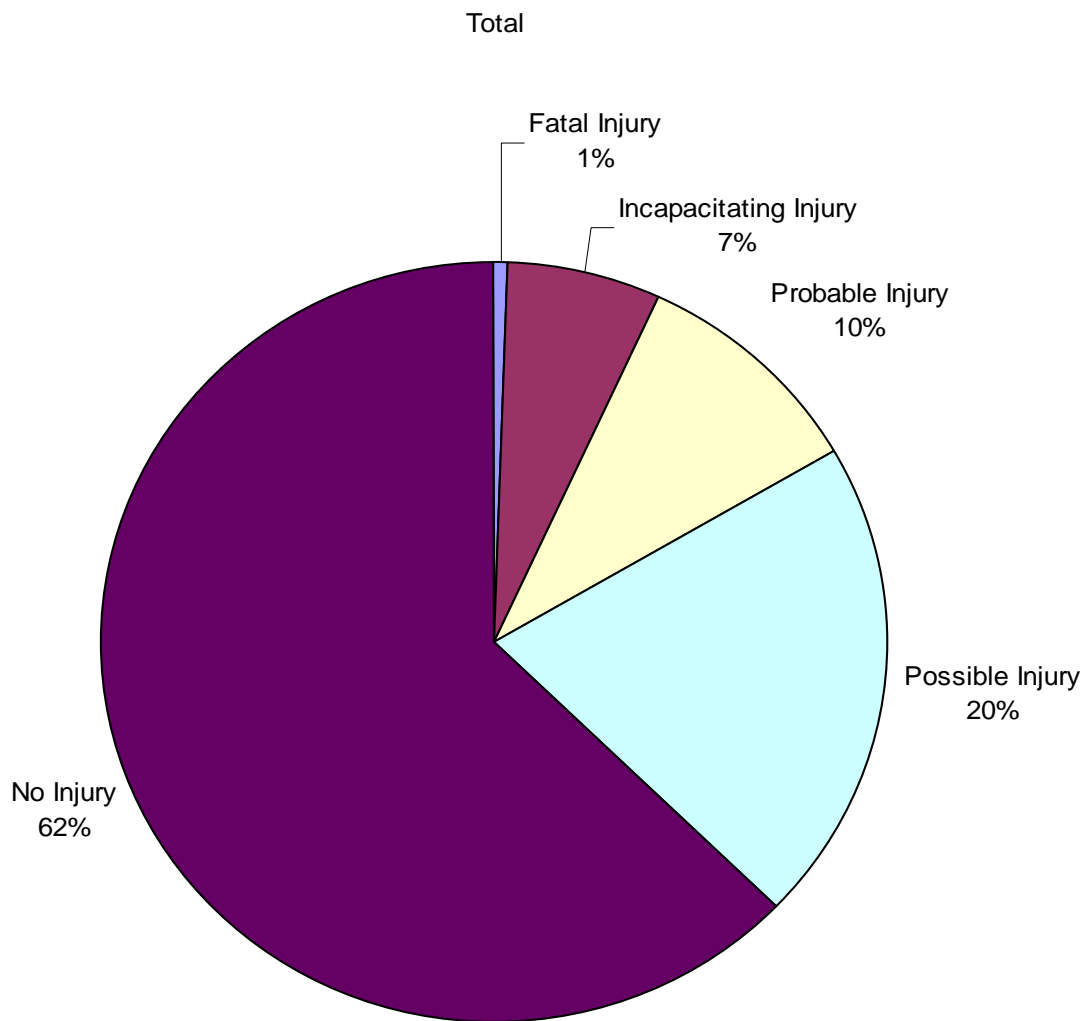
Figure 1.02 reflects the decreasing trend in fatal crash rates per 100 million vehicle miles traveled (MVMT) from 1972 to 2002. The fatal crash rates have markedly decreased from 1972 (4.5 per 100 MVMT) to 2002 (1.1 per 100 MVMT). The biggest decrease in fatal crash rates occurred in 1973, the same year the speed limit was lowered to 55 MPH.



Crash Severity

Figure 1.03 shows the breakdown of crash severity as recorded by the police. The majority (62.8%) of crashes resulted in property damage only, 37.2% of crashes resulted in some level of injury, and fatal crashes represented less than 1% (0.5%) of crashes in Utah.

Figure 1.03 Severity of Crashes as Reported by Police, Utah 2002 (n=53,370)



Crashes by County

Figure 1.04 depicts the number of injury crashes for each county in Utah. Salt Lake, Utah, and Weber had the highest injury crashes. For more information on total crashes, injury crashes and fatal crashes by county see Table 1.02.

Figure 1.04 Injury Crashes by County, Utah 2002

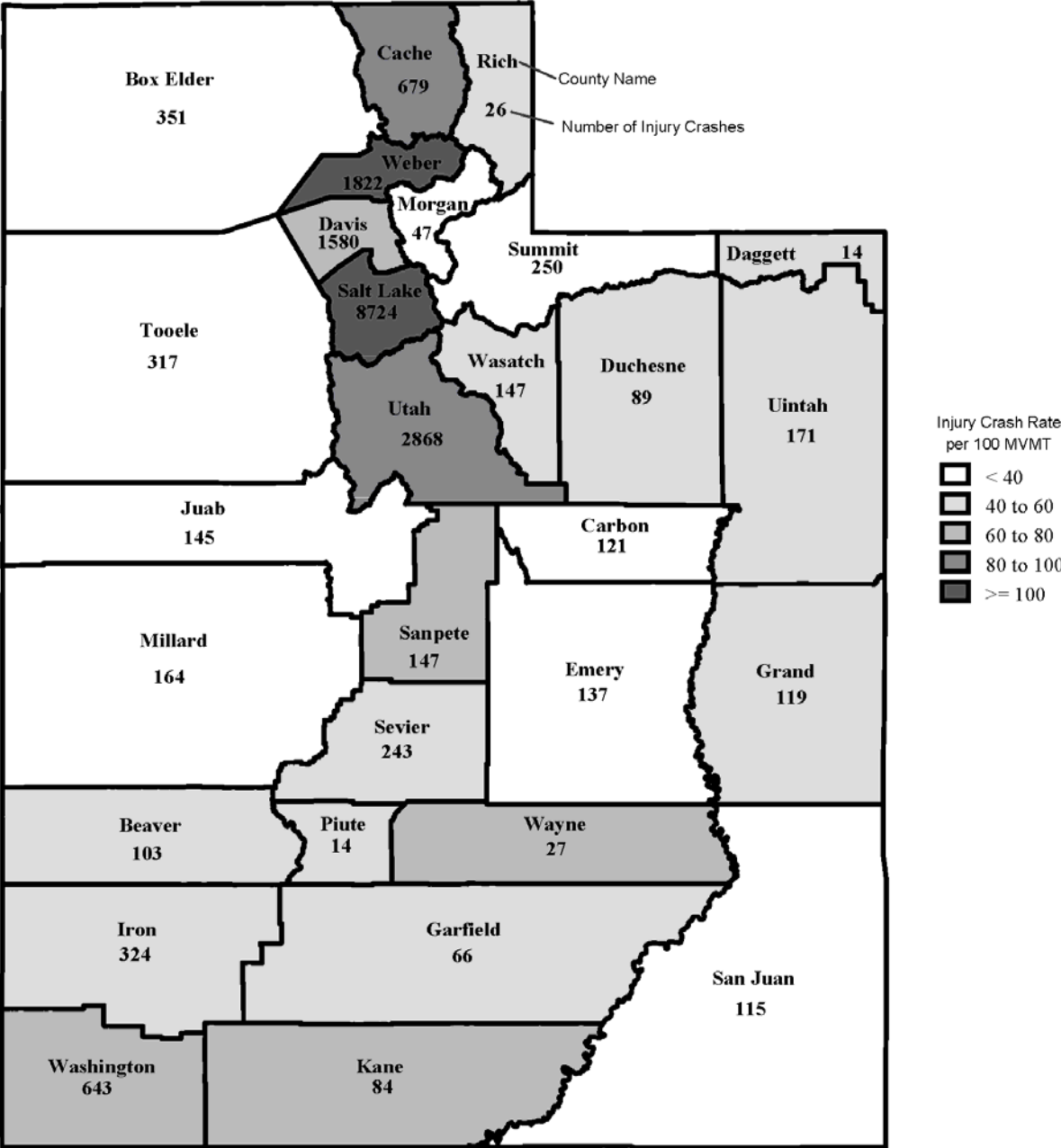


Figure 1.05 depicts the number of fatal crashes for each county in Utah. Salt Lake, Utah and Weber had the highest number of fatal crashes. For more information on total crashes, injury crashes and fatal crashes by county see Table 1.02.

Figure 1.05 Fatal Crashes by County, Utah 2002

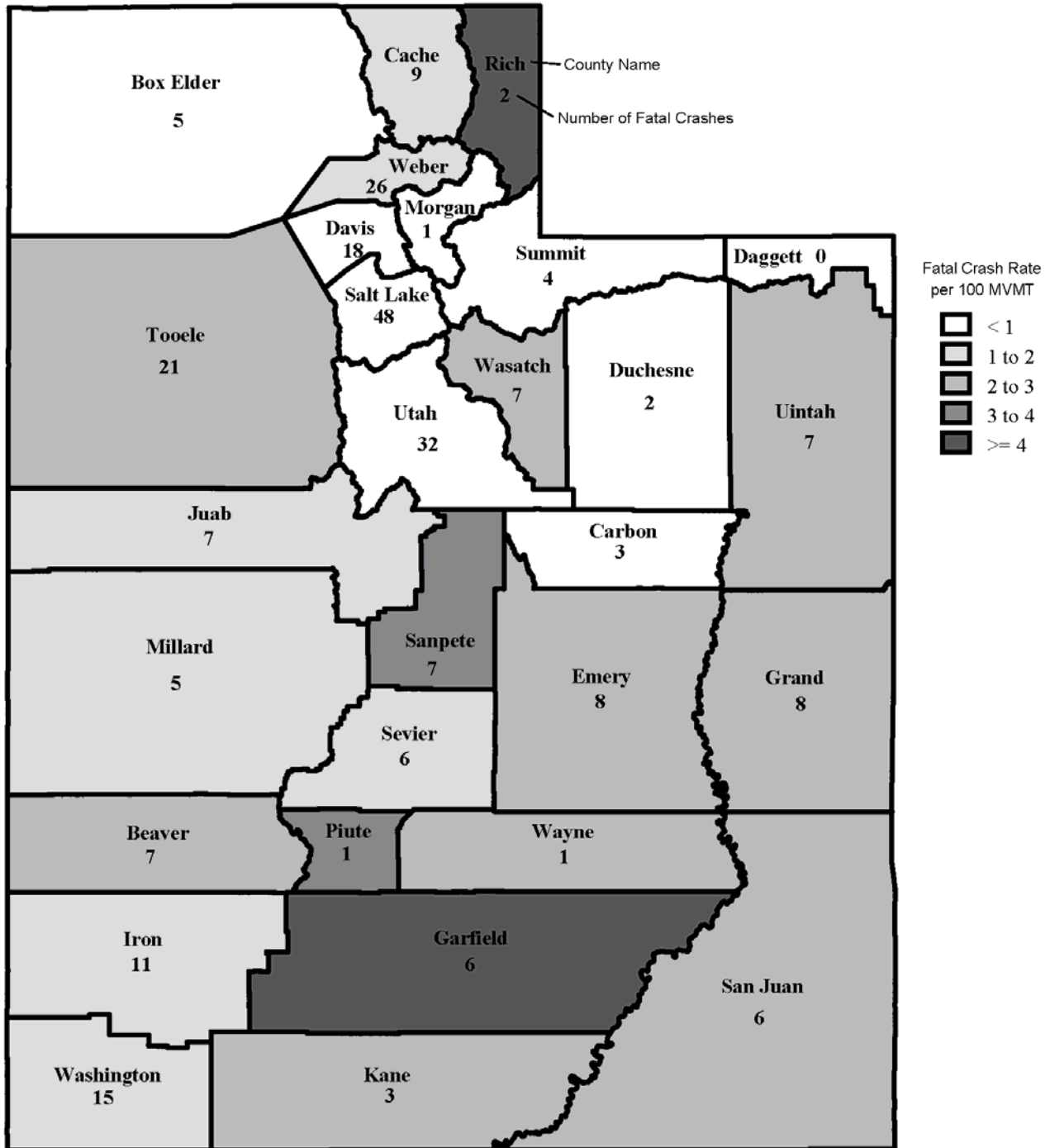


Table 1.02 shows the rates of total crashes, injury crashes and fatal crashes for each county. Two different rates are given in Table 1.02; one based on the miles traveled in the county and another on the population of the county. The rate of crashes per miles traveled provides a more accurate reflection of the motor vehicle crash risk. Cases where the crash rate per population is higher than the rate per miles traveled may indicate that the county has a large number of non-county drivers.

Table 1.02 Crashes by County, Utah 2002

County	Non-Injury Crashes			Injury Crashes			Fatal Crashes			Total Crashes		
	Crashes	Rate per 100 MVMT	Rate per 10,000 Population	Crashes	Rate per 100 MVMT	Rate per 10,000 Population	Crashes	Rate per 100 MVMT	Rate per 10,000 Population	Crashes	Rate per 100 MVMT	Rate per 10,000 Population
Beaver	207	85.6	332.1	103	42.6	165.2	7	2.9	11.2	317	131.1	508.5
Box Elder	600	61.8	137.4	351	36.2	80.4	5	0.5	1.1	956	98.5	218.8
Cache	1,527	184.3	160.0	679	81.9	71.2	9	1.1	0.9	2,215	267.3	232.1
Carbon	316	90.9	157.3	121	34.8	60.2	3	0.9	1.5	440	126.6	219.0
Daggett	29	105.5	304.6	14	50.9	147.1	0	0.0	0.0	43	156.5	451.7
Davis	2,912	126.4	116.5	1,580	68.6	63.2	18	0.8	0.7	4,510	195.8	180.4
Duchesne	210	103.7	142.0	89	44.0	60.2	2	1.0	1.4	301	148.6	203.5
Emery	212	57.0	200.9	137	36.8	129.9	8	2.1	7.6	357	95.9	338.4
Garfield	105	76.3	224.7	66	48.0	141.3	6	4.4	12.8	177	128.6	378.9
Grand	182	62.5	214.4	119	40.9	140.2	8	2.7	9.4	309	106.1	364.0
Iron	585	93.5	169.2	324	51.8	93.7	11	1.8	3.2	920	147.0	266.1
Juab	205	51.9	232.3	145	36.7	164.3	7	1.8	7.9	357	90.3	404.5
Kane	147	112.1	236.0	84	64.0	134.8	3	2.3	4.8	234	178.4	375.6
Millard	297	67.4	232.7	164	37.2	128.5	5	1.1	3.9	466	105.7	365.1
Morgan	115	90.4	159.6	47	36.9	65.2	1	0.8	1.4	163	128.1	226.2
Piute	37	112.9	263.2	14	42.7	99.6	1	3.1	7.1	52	158.7	369.8
Rich	46	105.6	232.4	26	59.7	131.4	2	4.6	10.1	74	169.9	373.9
Salt Lake	14,060	176.2	152.2	8,724	109.3	94.4	48	0.6	0.5	22,832	286.2	247.1
San Juan	201	68.1	140.8	115	39.0	80.6	6	2.0	4.2	322	109.2	225.6
Sanpete	219	95.5	93.0	147	64.1	62.4	7	3.1	3.0	373	162.6	158.4
Sevier	379	92.2	197.9	243	59.1	126.9	6	1.5	3.1	628	152.8	328.0
Summit	690	101.4	215.7	250	36.7	78.2	4	0.6	1.3	944	138.8	295.1
Tooele	545	67.1	119.5	317	39.0	69.5	21	2.6	4.6	883	108.7	193.6
Uintah	322	110.6	122.2	171	58.8	64.9	7	2.4	2.7	500	171.8	189.7
Utah	4,564	136.2	116.7	2,868	85.6	73.3	32	1.0	0.8	7,464	222.7	190.8
Wasatch	426	160.8	256.6	147	55.5	88.5	7	2.6	4.2	580	218.9	349.3
Washington	1,204	124.1	121.9	643	66.3	65.1	15	1.5	1.5	1,862	191.9	188.5
Wayne	59	138.9	228.2	27	63.6	104.4	1	2.4	3.9	87	204.8	336.6
Weber	3,101	194.7	155.2	1,822	114.4	91.2	26	1.6	1.3	4,949	310.7	247.7
Statewide	33,542	137.2	144.5	19,552	80.0	84.2	276	1.1	1.2	53,370	218.4	229.9

Crashes by City

The crash rates per population for cities with over 200 crashes in 2002 are shown in Table 1.03. While Riverdale had the highest rate per population of total crashes and injury crashes, Draper had the highest rate per population of fatal crashes.

Table 1.03 Crash Rates of Cities with More than 200 Crashes, Utah 2002

City	Non-Injury Crashes Rate per 10,000		Injury Crashes Rate per 10,000		Fatal Crashes Rate per 10,000		Total Crashes Rate per 10,000	
	Crashes	Population	Crashes	Population	Crashes	Population	Crashes	Population
Salt Lake City	1,858	106.5	2,172	124.5	17	1.0	4,047	232.0
Sandy	1,657	156.5	899	84.9	5	0.5	2,561	241.9
West Valley	1,218	113.4	971	90.4	2	0.2	2,191	203.9
Provo	1,383	121.7	795	69.9	1	0.1	2,179	191.7
Ogden City	1,248	182.8	832	121.9	15	2.2	2,095	306.9
Murray	1,131	320.7	586	166.2	1	0.3	1,718	487.1
West Jordan	983	141.8	495	71.4	0	0.0	1,478	213.2
Orem	707	84.3	609	72.6	5	0.6	1,321	157.5
Layton	769	137.1	452	80.6	4	0.7	1,225	218.5
St. George	804	160.3	372	74.2	0	0.0	1,176	234.5
Logan	812	195.2	279	67.1	2	0.5	1,093	262.8
South Salt Lake	585	323.3	304	168.0	3	1.7	892	492.9
Draper	549	255.3	256	119.0	5	2.3	810	376.7
Midvale	476	179.3	203	76.4	0	0.0	679	255.7
Clearfield	406	146.3	201	72.4	1	0.4	608	219.1
Bountiful	394	92.6	196	46.1	1	0.2	591	138.9
Taylorsville	329	60.5	222	40.9	0	0.0	551	101.4
Riverdale City	350	483.4	184	254.1	0	0.0	534	737.6
Roy City	308	93.3	150	45.5	0	0.0	458	138.8
American Fork	282	119.6	162	68.7	2	0.8	446	189.1
Cedar	321	141.9	117	51.7	3	1.3	441	194.9
South Ogden City	249	162.0	166	108.0	2	1.3	417	271.3
Lehi	230	119.6	149	77.5	2	1.0	381	198.1
Pleasant Grove	240	103.6	132	57.0	1	0.4	373	161.0
South Jordan	250	71.0	119	33.8	0	0.0	369	104.7
Tooele	235	105.2	79	35.4	2	0.9	316	141.4
Springville	196	104.5	114	60.8	0	0.0	310	165.2
Spanish Fork	191	96.5	114	57.6	1	0.5	306	154.6
Kaysville	192	106.5	101	56.0	2	1.1	295	163.6
North Salt Lake	196	219.9	80	89.7	0	0.0	276	309.6
Lindon	184	232.8	81	102.5	1	1.3	266	336.6
Park City	209	291.1	55	76.6	0	0.0	264	367.7
Centerville	162	95.1	78	45.8	2	1.2	242	142.0
Riverton	146	45.7	85	26.6	0	0.0	231	72.3
North Logan	141	223.1	75	118.7	1	1.6	217	343.3
Farmington	139	105.2	74	56.0	2	1.5	215	162.7

Crash Times

Table 1.04 shows that total crashes and injury crashes were more likely to occur between 2 p.m. and 6 p.m., with a peak at 5 p.m. (evening rush hour). Fatal crashes followed a similar pattern with a peak at 5 p.m. and another peak at 7 a.m. (Figure 1.05).

Table 1.04 Hour of Crashes, Utah 2002

Hour	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Midnight	459	1.4%	295	1.5%	9	3.3%	763	1.4%
1 a.m.	409	1.2%	233	1.2%	11	4.0%	653	1.2%
2 a.m.	304	0.9%	204	1.0%	3	1.1%	511	1.0%
3 a.m.	240	0.7%	146	0.7%	4	1.4%	390	0.7%
4 a.m.	204	0.6%	132	0.7%	6	2.2%	342	0.6%
5 a.m.	407	1.2%	206	1.1%	13	4.7%	626	1.2%
6 a.m.	788	2.3%	382	2.0%	8	2.9%	1,178	2.2%
7 a.m.	1,638	4.9%	896	4.6%	23	8.3%	2,557	4.8%
8 a.m.	1,642	4.9%	827	4.2%	11	4.0%	2,480	4.6%
9 a.m.	1,350	4.0%	765	3.9%	4	1.4%	2,119	4.0%
10 a.m.	1,334	4.0%	754	3.9%	4	1.4%	2,092	3.9%
11 a.m.	1,783	5.3%	982	5.0%	17	6.2%	2,782	5.2%
Noon	2,060	6.1%	1,207	6.2%	11	4.0%	3,278	6.1%
1 p.m.	2,027	6.0%	1,252	6.4%	15	5.4%	3,294	6.2%
2 p.m.	2,330	6.9%	1,318	6.7%	18	6.5%	3,666	6.9%
3 p.m.	2,772	8.3%	1,597	8.2%	10	3.6%	4,379	8.2%
4 p.m.	2,706	8.1%	1,764	9.0%	24	8.7%	4,494	8.4%
5 p.m.	3,209	9.6%	1,901	9.7%	13	4.7%	5,123	9.6%
6 p.m.	2,293	6.8%	1,425	7.3%	9	3.3%	3,727	7.0%
7 p.m.	1,533	4.6%	982	5.0%	18	6.5%	2,533	4.7%
8 p.m.	1,245	3.7%	714	3.7%	12	4.3%	1,971	3.7%
9 p.m.	1,233	3.7%	623	3.2%	10	3.6%	1,866	3.5%
10 p.m.	899	2.7%	545	2.8%	9	3.3%	1,453	2.7%
11 p.m.	677	2.0%	402	2.1%	14	5.1%	1,093	2.0%
Total	33,542	100.0%	19,552	100.0%	276	100.0%	53,370	100.0%

Figure 1.06 Hours of Injury Crashes and Fatal Crashes, Utah 2002 (see Table 1.04 for values)

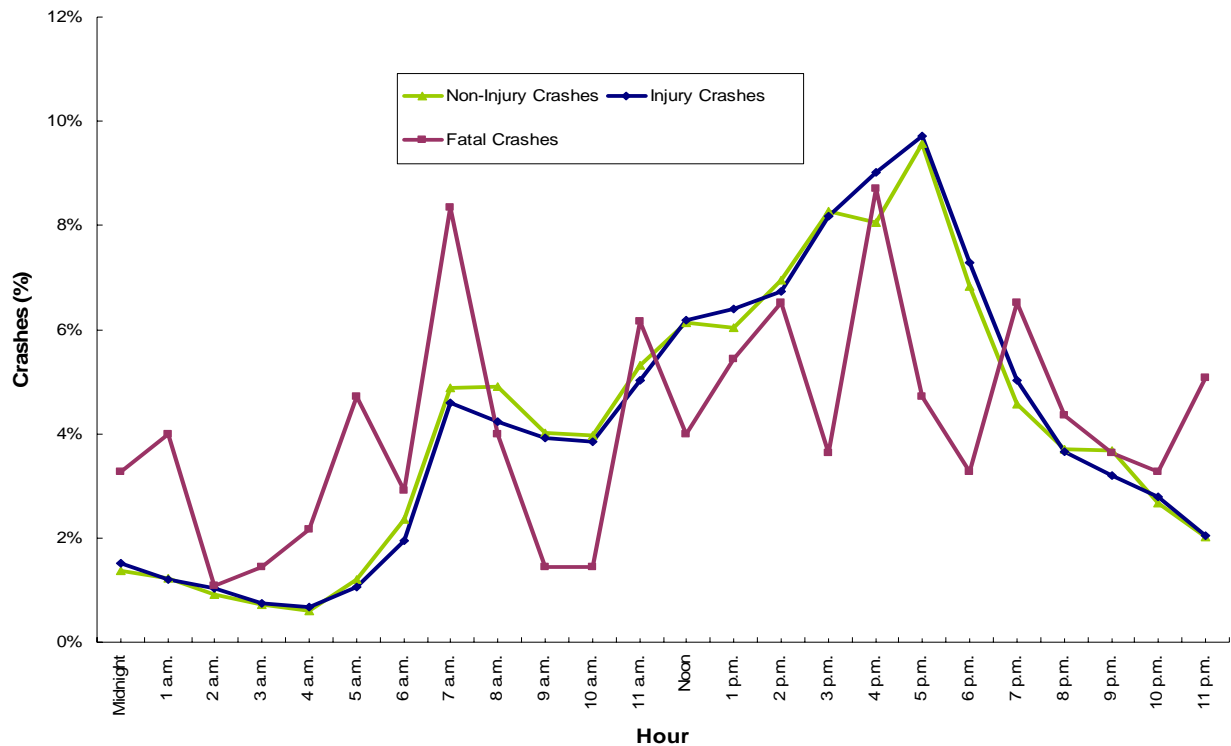


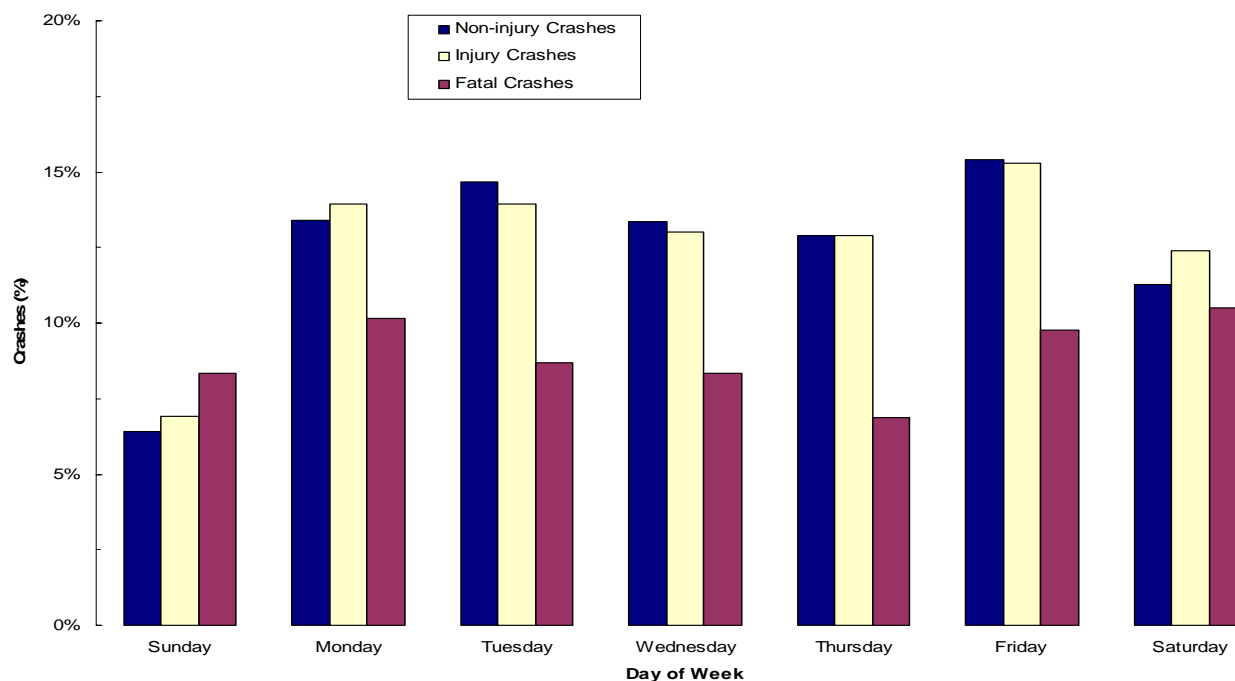
Table 1.05 shows that January had the highest rate of total crashes per day, while the months July, August, and September had the highest rates of fatal crashes per day. In fact, 35% of all fatal crashes occurred between the months of July and September.

Table 1.05 Months of Crashes, Utah 2002

Month	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Rate per day	Number	Rate per day	Number	Rate per day	Number	Rate per day
January	3,445	111.1	1,583	51.1	19	0.6	5,047	162.8
February	2,339	83.5	1,317	47.0	13	0.5	3,669	131.0
March	2,771	89.4	1,449	46.7	16	0.5	4,236	136.6
April	2,536	84.5	1,579	52.6	21	0.7	4,136	137.9
May	2,580	83.2	1,626	52.5	23	0.7	4,229	136.4
June	2,422	80.7	1,564	52.1	18	0.6	4,004	133.5
July	2,963	95.6	1,950	62.9	35	1.1	4,948	159.6
August	2,892	93.3	1,911	61.6	30	1.0	4,833	155.9
September	2,711	90.4	1,731	57.7	31	1.0	4,473	149.1
October	3,021	97.5	1,737	56.0	29	0.9	4,787	154.4
November	2,734	91.1	1,471	49.0	25	0.8	4,230	141.0
December	3,128	100.9	1,634	52.7	16	0.5	4,778	154.1
Total	33,542	91.9	19,552	53.6	276	0.8	53,370	146.2

Figure 1.06 and Table 1.06 show that the highest percentage of total crashes and injury crashes occurred on Friday. However, crashes occurring on Sunday were 1.3 times more likely to involve a fatality compared to crashes that occurred on other days of the week. The majority of Sunday fatal crashes occurred during the early morning hours.

Figure 1.07 Day of Week for Crashes, Utah 2002



Note: The above graph is based on percentages for the different crash categories. To read the above graph, look at one category across the days of the week. For example, look at only the white bars (i.e. injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 1.06 Day of Week for Crashes, Utah 2002

Day of Week	Non-injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Sunday	2,150	6.4%	1,353	6.9%	23	8.3%	3,526	6.6%
Monday	4,498	13.4%	2,728	14.0%	28	10.1%	7,254	13.6%
Tuesday	4,918	14.7%	2,728	14.0%	24	8.7%	7,670	14.4%
Wednesday	4,486	13.4%	2,543	13.0%	23	8.3%	7,052	13.2%
Thursday	4,331	12.9%	2,521	12.9%	19	6.9%	6,871	12.9%
Friday	5,162	15.4%	2,992	15.3%	27	9.8%	8,181	15.3%
Saturday	3,786	11.3%	2,426	12.4%	29	10.5%	6,241	11.7%
Missing	4,211	12.6%	2,261	11.6%	103	37.3%	6,575	12.3%
Total	33,542	100.0%	19,552	100.0%	276	100.0%	53,370	100.0%

Holiday Crashes 2000 - 2002

Table 1.07 shows the number of fatal crashes that occurred on holidays for the past three years. The number of days included in a holiday varied by year. When a holiday falls on Monday, the holiday begins at noon the Friday before the holiday, and ends at midnight on the holiday. If a holiday does not fall on the weekend, the holiday begins at noon the day before the holiday, and ends on midnight the day after the holiday. Because of the differing lengths of holidays, the rate per day is provided and should be used to compare holidays by year. Holidays are a concern due to increased motor vehicle travel combined with other possible risk factors (e.g., alcohol and other drug impaired driving, fatigued driving). July 24th was the holiday with the highest rate of fatal crashes for the years 2000 and 2001 and July 4th had the highest rate of fatal crashes in 2002. The fatal crash rate per day for holidays is 0.9 which is higher than the rate per day of 0.7 for the whole year.

Table 1.07 Fatal Crashes by Holiday, Utah 2000 - 2002

Holiday	2000 Fatal Crashes		2001 Fatal Crashes		2002 Fatal Crashes	
	Number	Rate per Day	Number	Rate per Day	Number	Rate per Day
New Years	0	0.0	4	1.0	1	0.3
Memorial Day	2	0.5	5	1.3	5	1.3
July 4th	4	1.0	2	0.7	9	1.8
July 24th	5	1.3	8	2.7	4	1.3
Labor Day	3	0.8	4	1.0	3	0.8
Halloween	0	0.0	0	0.0	0	0.0
Thanksgiving	2	0.4	6	1.2	2	0.4
Christmas	1	0.3	3	1.0	0	0.0
Total	17	0.6	32	1.1	24	0.9

Crash Characteristics

Table 1.08 shows crashes involving two motor vehicles represented the majority of crashes (71.5%). Pedestrian-motor vehicle crashes represented 1.2% of all crashes, but accounted for 8.7% of fatal crashes resulting in nearly a 8-fold increased risk of a fatality. In addition when a vehicle ran off the roadway (to the right, to the left, and through the median), there was a 6-fold increased risk of a fatality.

Table 1.08 Types of Crashes, Utah 2002

Crash Type	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Two Motor Vehicles	24,413	72.8%	13,671	69.9%	90	32.6%	38,174	71.5%
Ran Off Roadway - To the Right	2,065	6.2%	1,716	8.8%	53	19.2%	3,834	7.2%
Motor Vehicle and Fixed Object	1,675	5.0%	729	3.7%	13	4.7%	2,417	4.5%
Motor Vehicle and Wild Animal	2,046	6.1%	170	0.9%	0	0.0%	2,216	4.2%
Ran Off Roadway - To the Left	1,104	3.3%	1,007	5.2%	42	15.2%	2,153	4.0%
Other Non-Collision	707	2.1%	254	1.3%	5	1.8%	966	1.8%
Motor Vehicle and Other Object	664	2.0%	121	0.6%	3	1.1%	788	1.5%
Motor Vehicle and Pedestrian	28	0.1%	584	3.0%	24	8.7%	636	1.2%
Motor Vehicle and Bicycle	44	0.1%	585	3.0%	4	1.4%	633	1.2%
Ran Off Roadway Through Median	241	0.7%	265	1.4%	32	11.6%	538	1.0%
Overtuned in Roadway	164	0.5%	321	1.6%	7	2.5%	492	0.9%
Motor Vehicle and Domestic Animal	329	1.0%	89	0.5%	2	0.7%	420	0.8%
Motor Vehicle and Train	16	0.0%	9	0.0%	1	0.4%	26	0.0%
Motor Vehicle and Skates, Scooters, and Skateboards	0	0.0%	4	0.0%	0	0.0%	4	0.0%
Missing	46	0.1%	27	0.1%	0	0.0%	73	0.1%
Total	33,542	100.0%	19,552	100.0%	276	100.0%	53,370	100.0%

Table 1.09 shows the majority of injury crashes (74.9%) occurred in urban areas. However, approximately half of fatal crashes (61.6%) occurred in rural areas. In fact, rural crashes were 5 times more likely to result in a fatality than other crashes.

Table 1.09 Urban / Rural Location of Crashes, Utah 2002

Urban / Rural Location	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Rural Area - Up to 5,000	8,938	26.6%	4,631	23.7%	170	61.6%	13,739	25.7%
Small Urban 5,000-49,999	1,865	5.6%	874	4.5%	9	3.3%	2,748	5.1%
Urban 50,000-199,999	1,006	3.0%	423	2.2%	4	1.4%	1,433	2.7%
Urban 200,000 or More	21,109	62.9%	13,337	68.2%	92	33.3%	34,538	64.7%
Missing	624	1.9%	287	1.5%	1	0.4%	912	1.7%
Total	33,542	100.0%	19,552	100.0%	276	100.0%	53,370	100.0%

Table 1.10 shows the leading collision types (excluding other) were a rear end (29.3%) and a broadside (18.9%). These were also the leading injury collision types. The leading fatal collision type was a single vehicle rollover (44.6%), followed by broadside (10.5%) and Pedestrian/Bicyclist Crash (10.1%). Head-on collisions were 14 times more likely and single vehicle rollovers were 12 times more likely to result in a fatality than other collisions.

Table 1.10 Collision Description of Crashes, Utah 2002

Collision Description	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Other	13,145	39.2%	3,378	17.3%	27	9.8%	16,550	31.0%
Rear End	9,815	29.3%	6,036	30.9%	19	6.9%	15,870	29.7%
Broadside	6,343	18.9%	5,378	27.5%	29	10.5%	11,750	22.0%
Side Swipe	2,592	7.7%	868	4.4%	24	8.7%	3,484	6.5%
Single Vehicle Rollover	1,064	3.2%	2,255	11.5%	123	44.6%	3,442	6.4%
Pedestrian/Bicyclist Crash	72	0.2%	1,169	6.0%	28	10.1%	1,269	2.4%
Single Vehicle Fixed Object	344	1.0%	224	1.1%	3	1.1%	571	1.1%
Head-on	117	0.3%	219	1.1%	23	8.3%	359	0.7%
Single Vehicle Other	50	0.1%	25	0.1%	0	0.0%	75	0.1%
Total	33,542	100.0%	19,552	100.0%	276	100.0%	53,370	100.0%

Table 1.11 shows the majority of vehicles involved in Utah crashes were passenger cars (54.5%). While motorcycles represented less than 1% of vehicles involved in crashes, they represented 4.5% of vehicles in fatal crashes. Crashes involving a motorcycle were 6 times more likely to be fatal than crashes involving other vehicles. Crashes involving a large/semi truck were 4 times more likely to be fatal than crashes involving other vehicles.

Table 1.11 Type of Vehicles Involved in Crashes, Utah 2002

Vehicle Type	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Passenger Car	32,879	53.4%	21,048	56.6%	155	36.7%	54,082	54.5%
Light Truck, Van or SUV	24,995	40.6%	13,912	37.4%	191	45.3%	39,098	39.4%
Large/ Semi Truck	2,277	3.7%	989	2.7%	49	11.6%	3,315	3.3%
Other	1,185	1.9%	452	1.2%	7	1.7%	1,644	1.7%
Motorcycle	90	0.1%	706	1.9%	19	4.5%	815	0.8%
School Bus	107	0.2%	33	0.1%	1	0.2%	141	0.1%
Missing	63	0.1%	37	0.1%	0	0.0%	100	0.1%
Total	61,596	100.0%	37,177	100.0%	422	100.0%	99,195	100.0%

Crash Violations and Contributing Factors

Officers at the scene cited 33.6% of drivers involved in a crash for a traffic violation. Table 1.12 shows the leading violation for all crashes was “failure to yield right of way” (19.3%). The top violations in fatal crashes were “vehicular homicide” (18.4%) and “driving under the influence” (18.4%). Drivers cited for “driving under the influence” were 5 times more likely to be involved in a fatal crash than drivers cited for other violations.

Table 1.12 Violations for Crashes, Utah 2002

Violations	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Failure to Yield Right of Way	3,443	17.9%	2,745	21.4%	3	7.9%	6,191	19.3%
Improper Lookout	3,630	18.9%	2,133	16.6%	0	0.0%	5,763	18.0%
Following Too Close	2,944	15.3%	1,725	13.4%	2	5.3%	4,671	14.6%
Other Non-Moving Violations	1,716	8.9%	1,155	9.0%	5	13.2%	2,876	9.0%
All Other Moving Violations	1,403	7.3%	898	7.0%	4	10.5%	2,305	7.2%
Speeding	1,083	5.6%	651	5.1%	5	13.2%	1,739	5.4%
Red Light	706	3.7%	938	7.3%	1	2.6%	1,645	5.1%
Negligent Collision	916	4.8%	566	4.4%	1	2.6%	1,483	4.6%
Driving Under the Influence	662	3.4%	776	6.0%	7	18.4%	1,445	4.5%
Improper Turn	724	3.8%	337	2.6%	2	5.3%	1,063	3.3%
Improper Lane Change	490	2.6%	167	1.3%	0	0.0%	657	2.0%
Stop Sign	240	1.2%	302	2.3%	1	2.6%	543	1.7%
Hit and Run	297	1.5%	102	0.8%	0	0.0%	399	1.2%
Improper Backing	353	1.8%	32	0.2%	0	0.0%	385	1.2%
Reckless Driving	160	0.8%	122	0.9%	0	0.0%	282	0.9%
Improper Passing	196	1.0%	71	0.6%	0	0.0%	267	0.8%
Wrong Side of Road	116	0.6%	89	0.7%	0	0.0%	205	0.6%
Improper Start and Stop	118	0.6%	43	0.3%	0	0.0%	161	0.5%
Vehicle Homicide	1	0.0%	0	0.0%	7	18.4%	8	0.0%
Wrong Way on One Way Street	4	0.0%	1	0.0%	0	0.0%	5	0.0%
Total	19,202	100.0%	12,853	100.0%	38	100.0%	32,093	100.0%

Factors contributing to crashes are listed in Table 1.13. Factors are coded for each vehicle involved in the crash by the police officer at the scene of the crash. The officer may record up to two different contributing factors. The leading contributing factor recorded for total crashes and injury crashes was "improper lookout" (24.3 % and 23%), while "speed too fast" (22.4%) was the leading contributing factor recorded for fatal crashes. If "driving under the influence," "had been drinking," and "under the influence of drugs" were combined it would be the third leading contributing factor for fatal crashes at 11.6%.

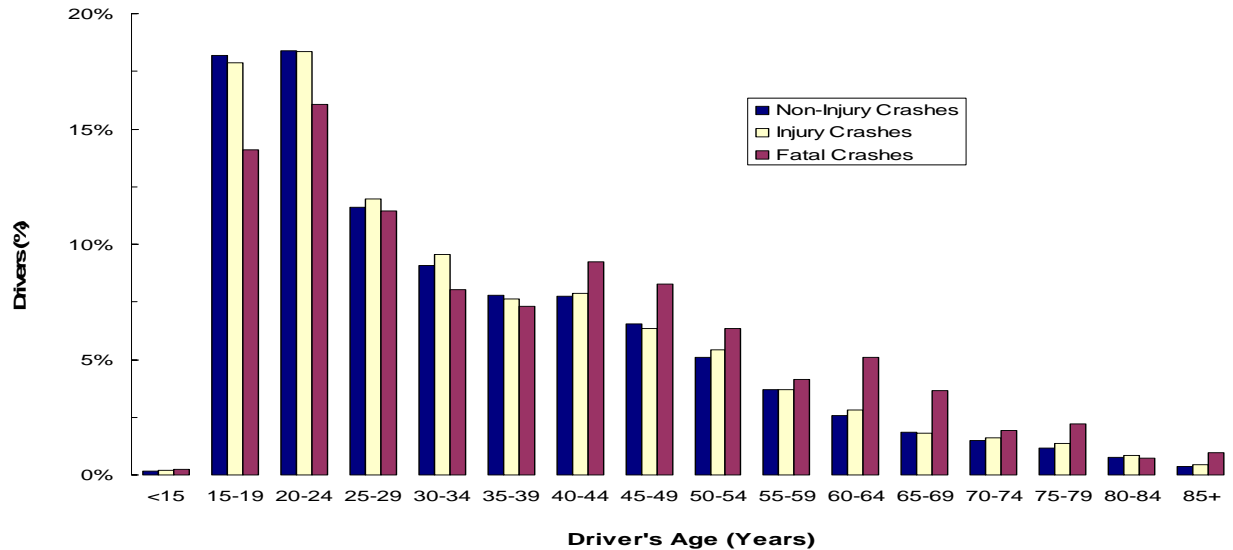
Table 1.13 Contributing Factors of Crashes, Utah 2002

Contributing Factor	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Improper Lookout	10,495	25.3%	6,022	23.0%	39	9.3%	16,556	24.3%
Failed to Yield the Right of Way	5,660	13.7%	4,061	15.5%	24	5.7%	9,745	14.3%
Following Too Closely	5,302	12.8%	3,051	11.7%	7	1.7%	8,360	12.3%
Speed Too Fast	4,487	10.8%	2,850	10.9%	94	22.4%	7,431	10.9%
Other Improper Driving	3,452	8.3%	2,346	9.0%	57	13.6%	5,855	8.6%
Hit and Run	1,823	4.4%	655	2.5%	2	0.5%	2,480	3.6%
Improper Turn	1,568	3.8%	727	2.8%	5	1.2%	2,300	3.4%
Disregarded Traffic Signal	960	2.3%	1,185	4.5%	4	1.0%	2,149	3.2%
Improper Backing	721	1.7%	64	0.2%	0	0.0%	785	1.2%
Improper Overtaking	691	1.7%	276	1.1%	4	1.0%	971	1.4%
Driving Under the Influence	674	1.6%	797	3.0%	27	6.4%	1,498	2.2%
Non-Contact Vehicle Involved	581	1.4%	312	1.2%	9	2.1%	902	1.3%
Drove Left of Center	467	1.1%	441	1.7%	34	8.1%	942	1.4%
Asleep	449	1.1%	606	2.3%	31	7.4%	1,086	1.6%
Other Driving Distraction	414	1.0%	300	1.1%	1	0.2%	715	1.1%
Other Defective Condition	325	0.8%	136	0.5%	3	0.7%	464	0.7%
Object in Roadway	322	0.8%	133	0.5%	6	1.4%	461	0.7%
Passed Stop Sign	309	0.7%	399	1.5%	3	0.7%	711	1.0%
Cargo Loss or Shift	241	0.6%	74	0.3%	1	0.2%	316	0.5%
Tires Defective	240	0.6%	122	0.5%	3	0.7%	365	0.5%
Improper Parking	211	0.5%	78	0.3%	0	0.0%	289	0.4%
Fatigued	210	0.5%	287	1.1%	15	3.6%	512	0.8%
Had Been Drinking	185	0.4%	248	0.9%	14	3.3%	447	0.7%
Non-collision Fire	164	0.4%	9	0.0%	0	0.0%	173	0.3%
Brakes Defective	160	0.4%	129	0.5%	2	0.5%	291	0.4%
Towed Vehicle	112	0.3%	56	0.2%	2	0.5%	170	0.2%
Aggressive Driving	109	0.3%	68	0.3%	2	0.5%	179	0.3%
Failed to Signal	104	0.3%	37	0.1%	2	0.5%	143	0.2%
Separation of Units	97	0.2%	7	0.0%	1	0.2%	105	0.2%
Vehicle Rolling in Traffic Lane	92	0.2%	32	0.1%	0	0.0%	124	0.2%
Jackknife	87	0.2%	21	0.1%	2	0.5%	110	0.2%
Sick or ill	80	0.2%	155	0.6%	1	0.2%	236	0.3%
Driver Using Cell Phone	79	0.2%	72	0.3%	0	0.0%	151	0.2%
Under the Influence of Drugs	72	0.2%	103	0.4%	8	1.9%	183	0.3%
Windshield Not Clear	70	0.2%	42	0.2%	2	0.5%	114	0.2%
Down Hill Runaway	69	0.2%	24	0.1%	3	0.7%	96	0.1%
Wrong Side of Road	63	0.2%	74	0.3%	3	0.7%	140	0.2%
Explosion or Fire	62	0.1%	5	0.0%	0	0.0%	67	0.1%
Stolen	61	0.1%	42	0.2%	2	0.5%	105	0.2%
Other Lights or Reflecting/Defective	34	0.1%	23	0.1%	1	0.2%	58	0.1%
Headlights Glaring	33	0.1%	15	0.1%	0	0.0%	48	0.1%
Headlights Insufficient or Out	32	0.1%	22	0.1%	1	0.2%	55	0.1%
Steering Mechanism Defective	32	0.1%	14	0.1%	0	0.0%	46	0.1%
Eyesight Defective Uncorrected	19	0.0%	15	0.1%	0	0.0%	34	0.0%
Wrong Way on One Way Street	11	0.0%	12	0.0%	0	0.0%	23	0.0%
Collision Fire	9	0.0%	6	0.0%	5	1.2%	20	0.0%
Immersion	6	0.0%	6	0.0%	0	0.0%	12	0.0%
Total	41,444	100.0%	26,159	100.0%	420	100.0%	68,023	100.0%

Drivers Involved in Crashes

Figure 1.08 shows the age of licensed drivers involved in crashes for 2002. The age distribution of drivers involved in total crashes and injury crashes were similar; drivers between the age of 15 to 24 years represented the highest percentage of drivers involved in these crashes. Drivers between the age of 20 to 24 years represented the largest percentage of drivers involved in fatal crashes. For information regarding crash rate per licensed driver, see Figure 1.09.

Figure 1.08 Age of Drivers Involved in Crashes, Utah 2002



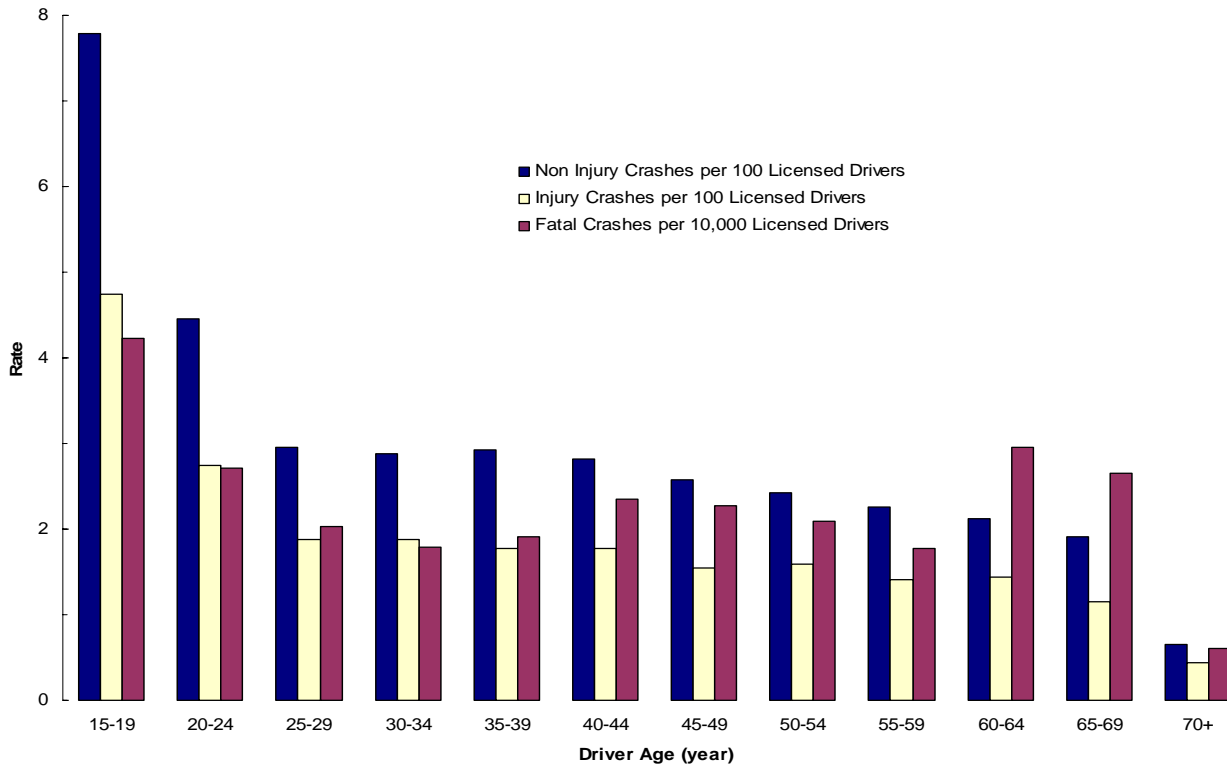
Note: The above graph is based on percentages for the different crash categories. To read the above graph, look at one category across the age groups. For example, look at only the white bars (i.e. drivers in injury crashes) from age group to age group. Do not compare the heights of the different crash categories for a specific age group.

Table 1.14 Age of Drivers Involved in Crashes, Utah 2002

Driver Age	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<15	86	0.1%	75	0.2%	1	0.2%	162	0.2%
15-19	10,690	18.2%	6,506	17.9%	58	14.1%	17,254	18.1%
20-24	10,818	18.4%	6,678	18.4%	66	16.1%	17,562	18.4%
25-29	6,822	11.6%	4,353	12.0%	47	11.4%	11,222	11.7%
30-34	5,330	9.1%	3,484	9.6%	33	8.0%	8,847	9.3%
35-39	4,584	7.8%	2,773	7.6%	30	7.3%	7,387	7.7%
40-44	4,555	7.8%	2,864	7.9%	38	9.2%	7,457	7.8%
45-49	3,850	6.6%	2,309	6.3%	34	8.3%	6,193	6.5%
50-54	3,004	5.1%	1,976	5.4%	26	6.3%	5,006	5.2%
55-59	2,167	3.7%	1,344	3.7%	17	4.1%	3,528	3.7%
60-64	1,504	2.6%	1,019	2.8%	21	5.1%	2,544	2.7%
65-69	1,080	1.8%	653	1.8%	15	3.6%	1,748	1.8%
70-74	863	1.5%	578	1.6%	8	1.9%	1,449	1.5%
75-79	678	1.2%	500	1.4%	9	2.2%	1,187	1.2%
80-84	447	0.8%	305	0.8%	3	0.7%	755	0.8%
85+	223	0.4%	156	0.4%	4	1.0%	383	0.4%
Unknown	2,065	3.5%	815	2.2%	1	0.2%	2,881	3.0%
Total	58,766	100.0%	36,388	100.0%	411	100.0%	95,565	100.0%

Similar trends in the age of drivers involved in crashes are illustrated in Figure 1.09 which shows the crash rate per licensed drivers. Drivers aged 15 to 19 years experienced the highest total crash, injury crash and fatal crash rates. Drivers aged 20 to 24 years had the second highest total crash and injury crash rate. Drivers 60 to 64 years had the second highest fatal crash rate.

Figure 1.09 Age of Driver by Crash Rate per Licensed Driver*, Utah 2002



*The number of licensed drivers was provided by the Utah Driver License Division.

Table 1.15 shows males represented 57.4% of all drivers involved in a crash, and 75.4% of drivers involved in fatal crashes. Females accounted for 40.3% of drivers involved in a crash, but they represented a slightly higher percentage of drivers in injury crashes at 43.4%.

Table 1.15 Gender of Drivers Involved in Crashes, Utah 2002

Driver Gender	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	22,623	38.5%	15,801	43.4%	101	24.6%	38,525	40.3%
Male	34,528	58.8%	20,043	55.1%	310	75.4%	54,881	57.4%
Unknown	1,615	2.7%	544	1.5%	0	0.0%	2,159	2.3%
Total	58,766	100.0%	36,388	100.0%	411	100.0%	95,565	100.0%

Out of State Drivers Involved in Utah Crashes

Table 1.16 shows the state of licensure for drivers involved in Utah crashes. While out-of-state licensed drivers accounted for 9.1% of drivers involved in crashes, they represented 24.1% of drivers involved in fatal crashes. This may be due in part to fatigued driving on out-of-state trips.

There were several counties that had a disproportional amount of out-of-state drivers (Table 1.17). Most notably, San Juan (47.7%), Grand (47.5%), Kane (45.9%), and Garfield (44.0%) had a high proportion of out-of-state licensed drivers involved in crashes. These drivers may place an extra burden on the residents and medical services in these counties.

Table 1.17 State of Licensure for Drivers by County, Utah 2002

County	Total Drivers*	Out of State Drivers	
		Number	Percent
Beaver	402	141	35.1%
Box Elder	1,320	224	17.0%
Cache	3,952	437	11.1%
Carbon	658	66	10.0%
Daggett	45	15	33.3%
Davis	8,177	506	6.2%
Duchesne	367	32	8.7%
Emery	424	162	38.2%
Garfield	209	92	44.0%
Grand	398	189	47.5%
Iron	1,382	307	22.2%
Juab	479	106	22.1%
Kane	305	140	45.9%
Millard	575	191	33.2%
Morgan	209	26	12.4%
Piute	55	13	23.6%
Rich	88	19	21.6%
Salt Lake	41,108	2,277	5.5%
San Juan	384	183	47.7%
Sanpete	520	24	4.6%
Sevier	788	268	34.0%
Summit	1,291	309	23.9%
Tooele	1,284	159	12.4%
Uintah	753	66	8.8%
Utah	13,542	1,493	11.0%
Wasatch	784	99	12.6%
Washington	3,271	478	14.6%
Wayne	95	27	28.4%
Weber	9,411	636	6.8%
Statewide	95,565	8,687	9.1%

Table 1.16 State of Licensure for Drivers Involved in Crashes, Utah 2002

Drivers License State	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Out of State	5,345	9.1%	3,243	8.9%	99	24.1%	8,687	9.1%
Utah	51,176	87.1%	32,138	88.3%	304	74.0%	83,618	87.5%
Missing	2,245	3.8%	1,007	2.8%	8	1.9%	3,260	3.4%
Total	58,766	100.0%	36,388	100.0%	411	100.0%	95,565	100.0%

Section 2

Crashes Participants in 2002

Crash Injured Persons and Fatalities 1972-2002	2.2
Crash Injury Severity	2.4
Crash Participants, Injured Persons and Crash Fatalities by County	2.5
Characteristics of Crash Participants	2.8

TABLES

Table 2.01	Crash Injured Persons and Fatalities, Utah 1972-2002
Table 2.02	Crash Participants, Injured Persons and Crash Fatalities by County, Utah 2002
Table 2.03	Injured Severity by Participants' Placement in the Crash, Utah 2002
Table 2.04	Gender of Crash Participants, Injured Persons and Crash Fatalities, Utah 2002
Table 2.05	Age of Crash Participants, Injured Persons and Crash Fatalities, Utah 2002

FIGURES

Figure 2.01	Crash Injured Person Rates per Miles Traveled, Utah 1972-2002
Figure 2.02	Crash Fatality Rates per Miles Traveled, Utah 1972-2002
Figure 2.03	Severity of Injuries as Reported by Police, Utah 2002
Figure 2.04	Injured Persons by County, Utah 2002
Figure 2.05	Crash Fatalities by County, Utah 2002
Figure 2.06	Age of Crash Participants, Utah 2002
Figure 2.07	Age and Gender of Crash Fatalities, Utah 2002

Injured Persons and Fatalities 1972 - 2002

The trends in injuries and fatalities for the past thirty years are shown in Table 2.01. During this time period over 700,000 people have been injured and almost 10,000 people have been killed in a crash.

In 2002, the injured person rate per 100 million vehicle miles traveled (MVMT) was 124.5. This was almost a 1% decrease from the 2001 rate of 125.5. The lowest fatality rate occurred in 2001 at 1.2. There was a 8.0% increase in this rate to 1.3 in 2002.

Table 2.01 Injured Persons and Fatalities, Utah 1972-2002

Year	Million Vehicle Miles Traveled (MVMT)	Injuries	Fatalities	Injury Rate per 100 MVMT	Fatality Rate per 100 MVMT
1972	6,969	18,261	382	262.0	5.5
1973	7,274	18,415	361	253.2	5.0
1974	7,457	16,268	228	218.2	3.1
1975	7,942	17,762	274	223.6	3.5
1976	8,420	18,315	254	217.5	3.0
1977	9,054	19,728	360	217.9	4.0
1978	9,826	21,029	376	214.0	3.8
1979	9,811	20,798	328	212.0	3.3
1980	10,645	17,828	335	167.5	3.1
1981	10,733	18,090	364	168.5	3.4
1982	10,947	17,538	296	160.2	2.7
1983	11,228	18,910	283	168.4	2.5
1984	11,642	20,487	315	176.0	2.7
1985	12,035	21,346	303	177.4	2.5
1986	12,253	21,350	312	174.2	2.5
1987	12,679	19,237	297	151.7	2.3
1988	13,263	19,066	297	143.8	2.2
1989	13,915	19,843	303	142.6	2.2
1990	14,646	20,608	272	140.7	1.9
1991	15,390	19,540	271	127.0	1.8
1992	16,263	22,490	269	138.3	1.7
1993	17,055	25,763	303	151.1	1.8
1994	18,080	28,436	343	157.3	1.9
1995	18,786	28,343	325	150.9	1.7
1996	19,433	30,711	328	158.0	1.7
1997	20,408	31,238	366	153.1	1.8
1998	21,237	30,232	350	142.4	1.6
1999	21,867	29,959	360	137.0	1.6
2000	22,517	30,086	373	133.6	1.7
2001	23,399	29,375	292	125.5	1.2
2002	24,439	30,433	329	124.5	1.3
Total	439,613	701,485	9,849	159.6	2.2

Injured Persons and Fatalities 1972 - 2002

Figure 2.01 reflects the trends in rates of persons injured in crashes per 100 million vehicle miles traveled (MVMT) from 1972 to 2002. The injury rates were highest in the early 1970s.

Figure 2.01 Crash Injured Person Rates per Million Vehicle Miles Traveled, Utah 1972-2002

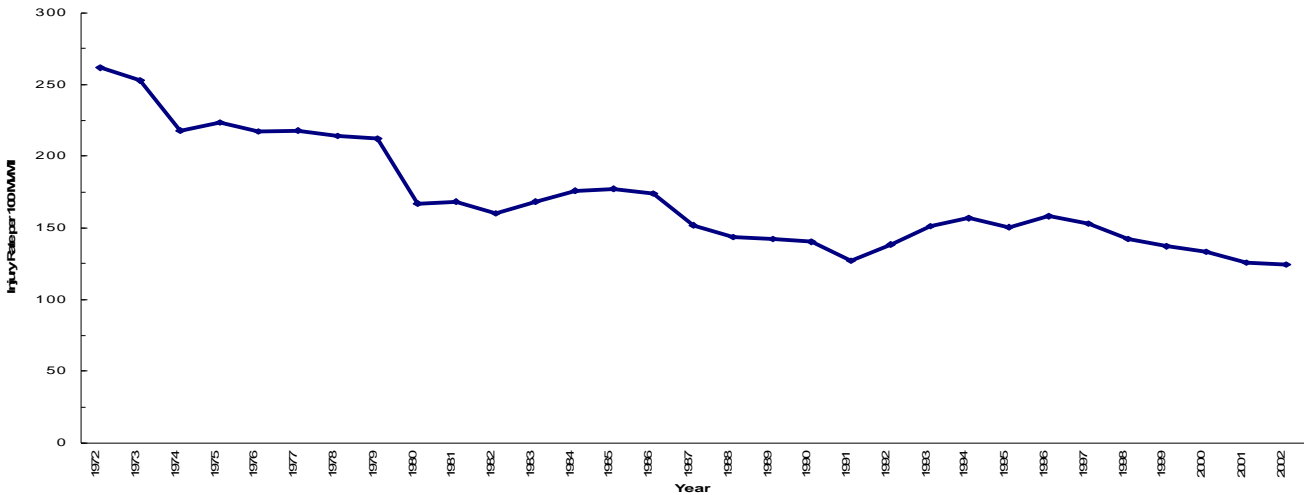
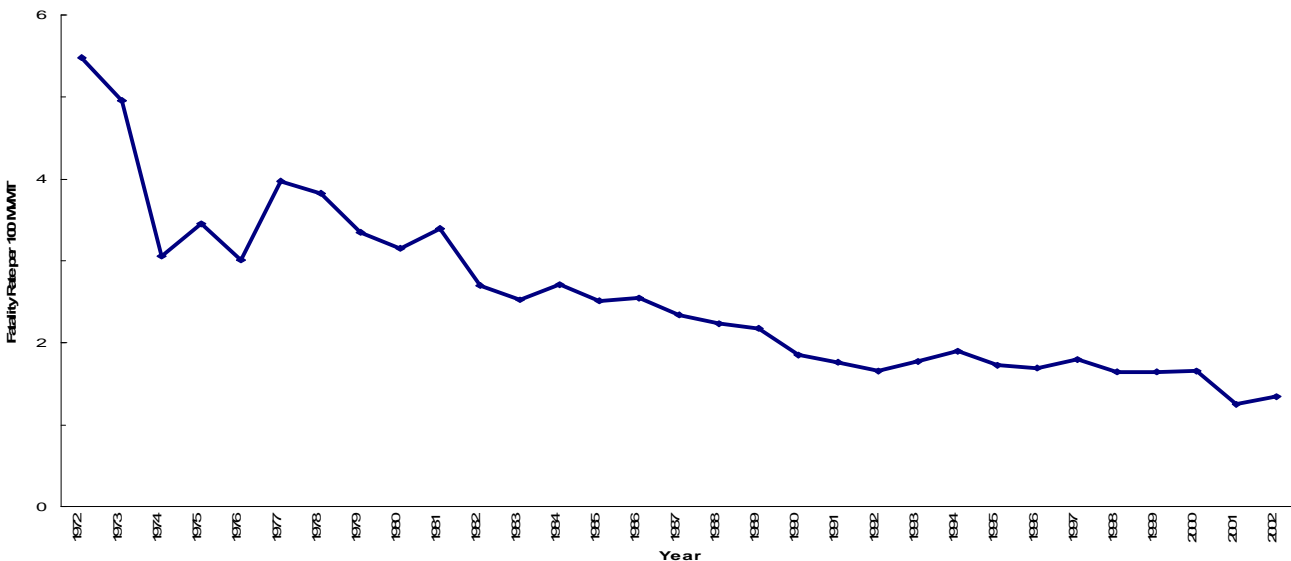


Figure 2.02 shows the trends in the rate of persons killed in crashes per 100 million vehicle miles traveled. The rate has markedly decreased from 5.5 persons killed per 100 MVMT in 1972 to 1.3 persons killed per 100 MVMT in 2002. The biggest decrease in fatalities occurred after the implementation of a 55 MPH speed limit in 1973.

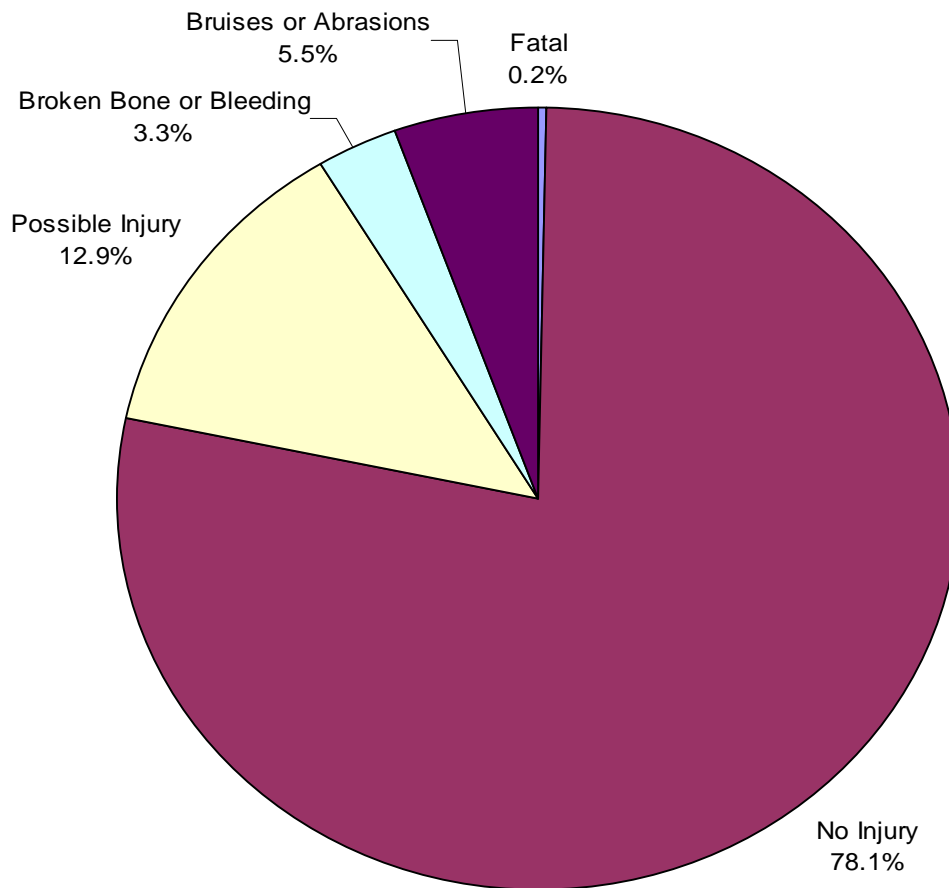
Figure 2.02 Crash Fatality Rates per Million Vehicle Miles Traveled, Utah 1972-2002



Crash Injury Severity

The majority (78.1%) of crash participants did not sustain an injury. Fatal crashes represented 0.5% of total crashes, yet a fatal injury was sustained by 0.2% of total crash participants. These facts indicate that individuals in the same crash have different injury experiences. Many factors influence injury patterns including seatbelt use, seat position, and vehicle safety equipment.

Figure 2.03 Severity of Injuries as Reported by Police, Utah 2002 (n=140,640)



Crash Participants, Injured Persons and Fatalities by County

Figure 2.04 depicts the number of injuries for each county. The leading counties for injured persons were Salt Lake, Utah, and Weber. For more information of crash participants, injured persons and fatalities see Table 2.02.

Figure 2.04 Injured Persons by County, Utah 2002

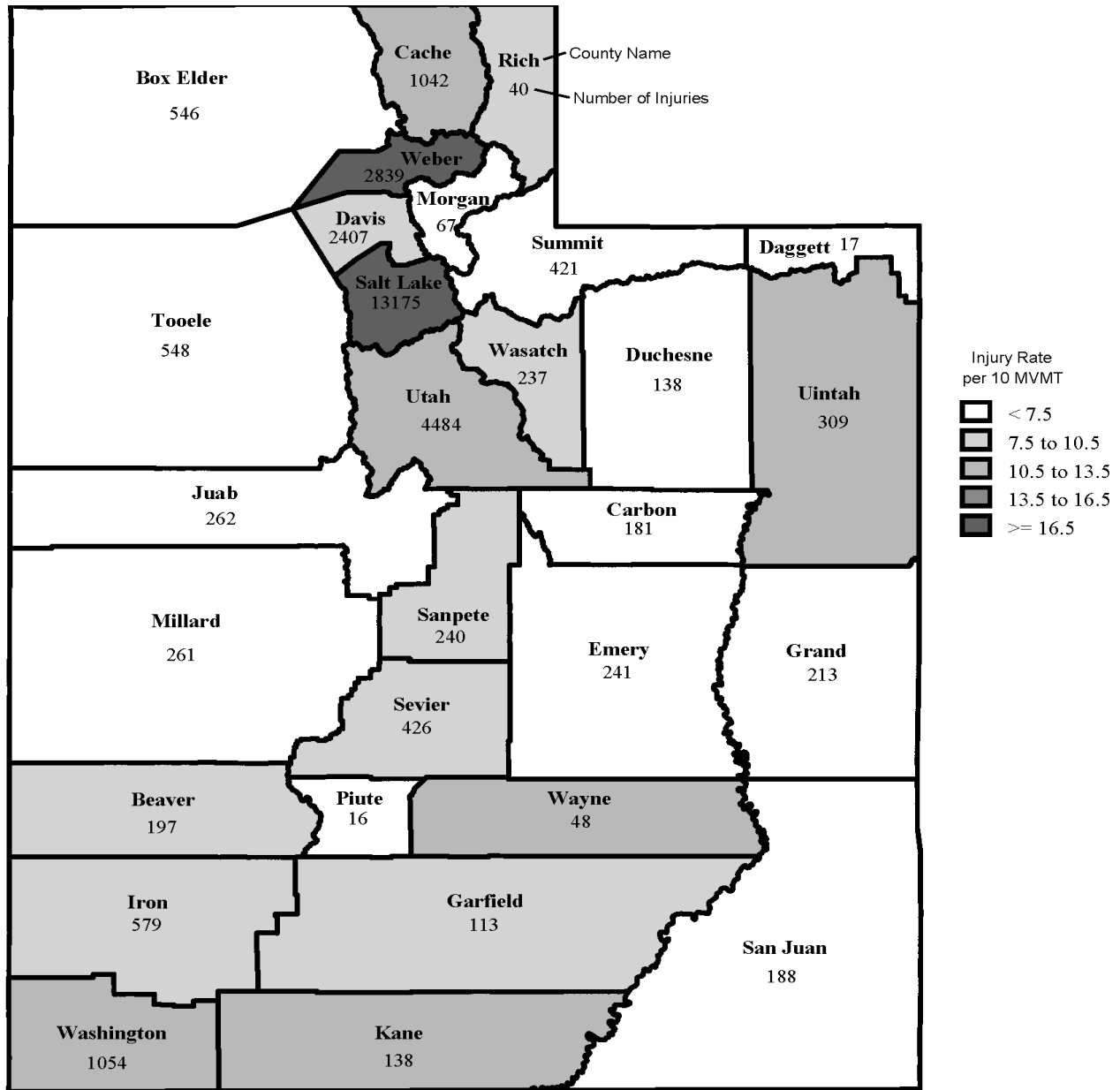
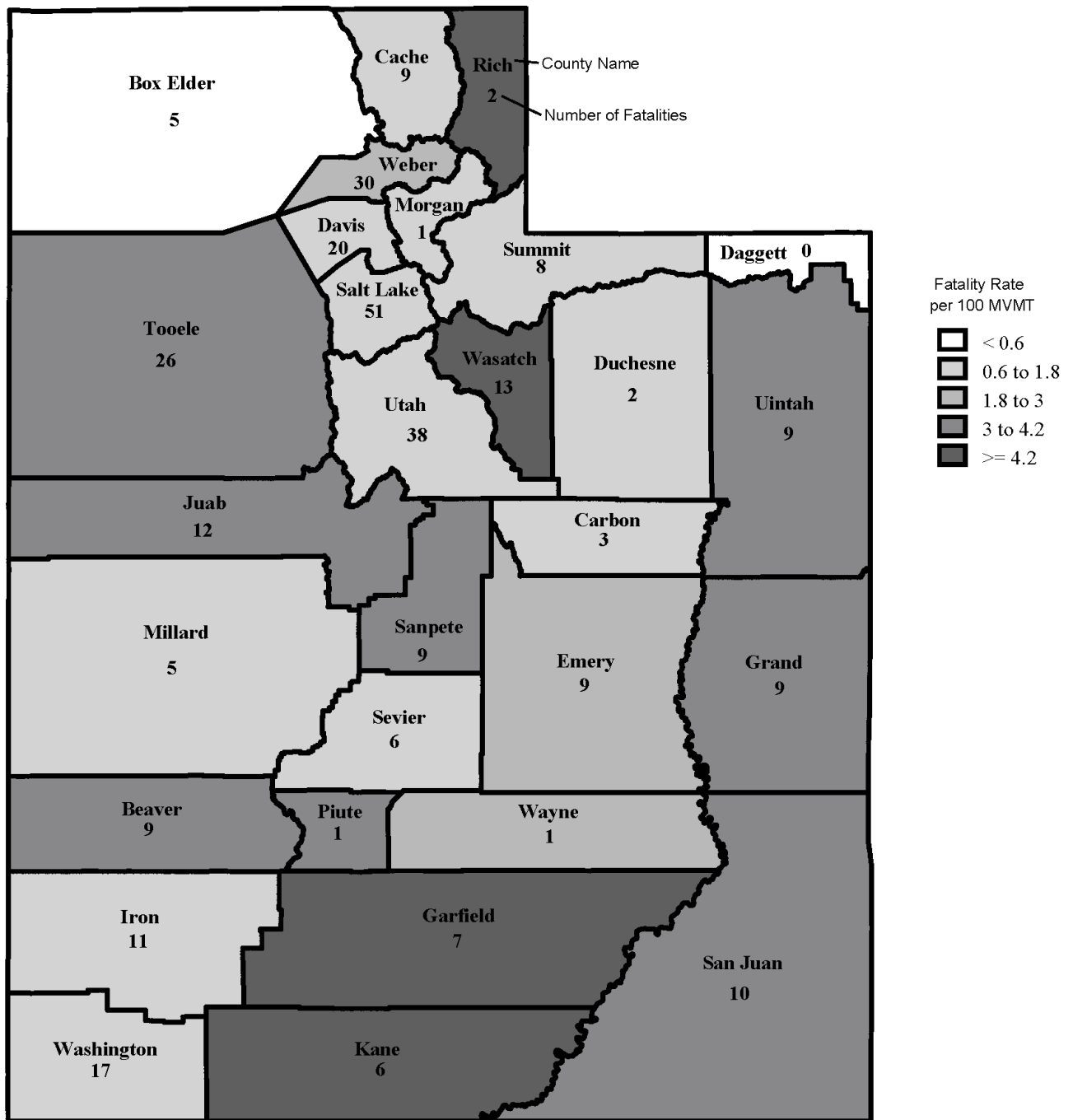


Figure 2.05 depicts the number of crash fatalities for each county. The leading four counties for fatalities were Salt Lake, Utah, Weber, and Davis. For more information of crash participants, injured persons and fatalities see Table 2.02.

Figure 2.05 Crash Fatalities by County, Utah 2002



Crash Participants, Injured Persons and Fatalities by County

Table 2.02 shows the rates of crash participants, injured persons and fatalities for each county. Two different rates are given in Table 2.02; one based on miles traveled in the county and another on the population of the county.

Table 2.02 Crash Participants by County, Utah 2002

County	Non-Injured Crash Persons			Injured Persons			Crash Fatalities			Total Crash Persons		
	Number	Rate per MVMT	Rate Per 10,000 Population	Number	Rate per 10 MVMT	Rate Per 10,000 Population	Number	Rate per 100 MVMT	Rate Per 10,000 Population	Number	Rate per MVMT	Rate Per 10,000 Population
Beaver	592	2.4	949.6	197	8.1	316.0	9	3.7	14.4	798	3.3	1,280.1
Box Elder	1,540	1.6	352.5	546	5.6	125.0	5	0.5	1.1	2,091	2.2	478.7
Cache	4,832	5.8	506.4	1,042	12.6	109.2	9	1.1	0.9	5,883	7.1	616.6
Carbon	802	2.3	399.2	181	5.2	90.1	3	0.9	1.5	986	2.8	490.8
Daggett	54	2.0	567.2	17	6.2	178.6	0	0.0	0.0	71	2.6	745.8
Davis	10,245	4.4	409.8	2,407	10.4	96.3	20	0.9	0.8	12,672	5.5	506.9
Duchesne	477	2.4	322.6	138	6.8	93.3	2	1.0	1.4	617	3.0	417.2
Emery	570	1.5	540.3	241	6.5	228.4	9	2.4	8.5	820	2.2	777.3
Garfield	301	2.2	644.3	113	8.2	241.9	7	5.1	15.0	421	3.1	901.1
Grand	427	1.5	503.0	213	7.3	250.9	9	3.1	10.6	649	2.2	764.5
Iron	1,806	2.9	522.3	579	9.3	167.5	11	1.8	3.2	2,396	3.8	693.0
Juab	568	1.4	643.6	262	6.6	296.9	12	3.0	13.6	842	2.1	954.1
Kane	467	3.6	749.6	138	10.5	221.5	6	4.6	9.6	611	4.7	980.7
Millard	769	1.7	602.5	261	5.9	204.5	5	1.1	3.9	1,035	2.3	810.9
Morgan	240	1.9	333.1	67	5.3	93.0	1	0.8	1.4	308	2.4	427.5
Piute	90	2.7	640.1	16	4.9	113.8	1	3.1	7.1	107	3.3	761.0
Rich	111	2.5	560.9	40	9.2	202.1	2	4.6	10.1	153	3.5	773.1
Salt Lake	48,040	6.0	520.0	13,175	16.5	142.6	51	0.6	0.6	61,266	7.7	663.1
San Juan	474	1.8	332.1	188	7.1	131.7	10	3.8	7.0	672	2.5	470.9
Sanpete	548	2.4	232.8	240	10.5	101.9	9	3.9	3.8	797	3.5	338.5
Sevier	833	2.0	435.0	426	10.4	222.5	6	1.5	3.1	1,265	3.1	660.6
Summit	1,715	2.5	536.2	421	6.2	131.6	8	1.2	2.5	2,144	3.2	670.3
Tooele	1,505	1.9	329.9	548	6.7	120.1	26	3.2	5.7	2,079	2.6	455.8
Uintah	900	3.1	341.5	309	10.6	117.3	9	3.1	3.4	1,218	4.2	462.2
Utah	15,884	4.7	406.0	4,484	13.4	114.6	38	1.1	1.0	20,406	6.1	521.6
Wasatch	997	3.8	600.5	237	8.9	142.7	13	4.9	7.8	1,247	4.7	751.0
Washington	4,197	4.3	424.8	1,054	10.9	106.7	17	1.8	1.7	5,268	5.4	533.2
Wayne	139	3.3	537.7	48	11.3	185.7	1	2.4	3.9	188	4.4	727.3
Weber	10,722	6.7	536.6	2,839	17.8	142.1	30	1.9	1.5	13,591	8.5	680.1
Statewide	19,878	0.8	85.6	30,433	12.5	131.1	329	1.3	1.4	140,640	5.8	605.8

* Million vehicle miles traveled

Characteristics of Crash Participants,

Table 2.03 contains the injury levels by participant placement in the crash. Pedestrians involved in a crash were at the greatest risk for a fatal injury. In fact, pedestrians were 18 times more likely than other crash participants to sustain a fatal injury.

Table 2.03 Injury Severity by Participants Placement in the Crash, Utah 2002

Participant Placement	Non-Injured Crash Persons		Non-Fatally Injured Persons		Fatally Injured Persons		Total Crash Persons	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Driver	75,727	68.9%	19,531	64.2%	179	54.4%	95,437	67.9%
Front Seat Passenger	18,589	16.9%	6,194	20.4%	60	18.2%	24,843	17.7%
Back Seat Passenger	15,097	13.7%	3,207	10.5%	50	15.2%	18,354	13.1%
Cargo Area	255	0.2%	97	0.3%	6	1.8%	358	0.3%
Pedestrian	32	0.0%	664	2.2%	27	8.2%	723	0.5%
Bicyclist	50	0.0%	590	1.9%	4	1.2%	644	0.5%
Other	128	0.1%	150	0.5%	3	0.9%	281	0.2%
Total	109,878	100.0%	30,433	100.0%	329	100.0%	140,640	100.0%

The gender breakdown of crash participants is found in Table 2.04. Over half of the crash participants were male (54.0%). While males sustained fatal injuries at a slightly higher percentage than females, female crash participants were more likely to sustain an injury than male crash participants.

Table 2.04 Gender of Crash Participants, Utah 2002

Gender	Non-Injured Crash Persons		Non-Fatally Injured Persons		Fatally Injured Persons		Total Crash Persons	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	46,103	42.0%	15,920	52.3%	118	35.9%	62,141	44.2%
Male	61,455	55.9%	14,248	46.8%	211	64.1%	75,914	54.0%
Missing	2,320	2.1%	265	0.9%	0	0.0%	2,585	1.8%
Total	109,878	100.0%	30,433	100.0%	329	100.0%	140,640	100.0%

Figure 2.06 shows the age of persons involved in crashes. The largest proportion of crash participants (35.5%) were aged 15 to 24 years. While individuals over the age of 65 years represented a small proportion of crash participants, individuals of this age group were 3 times more likely than all other age groups to sustain a fatal injury if involved in a crash.

Figure 2.06 Age of Crash Participants, Utah 2002

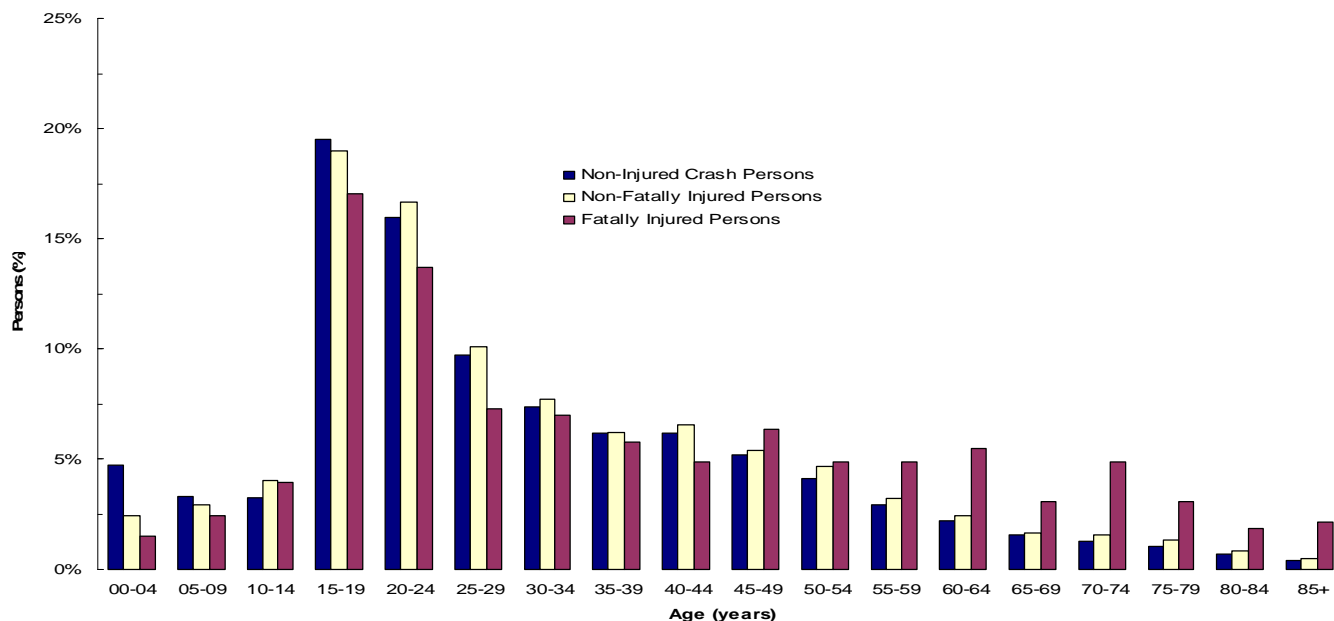
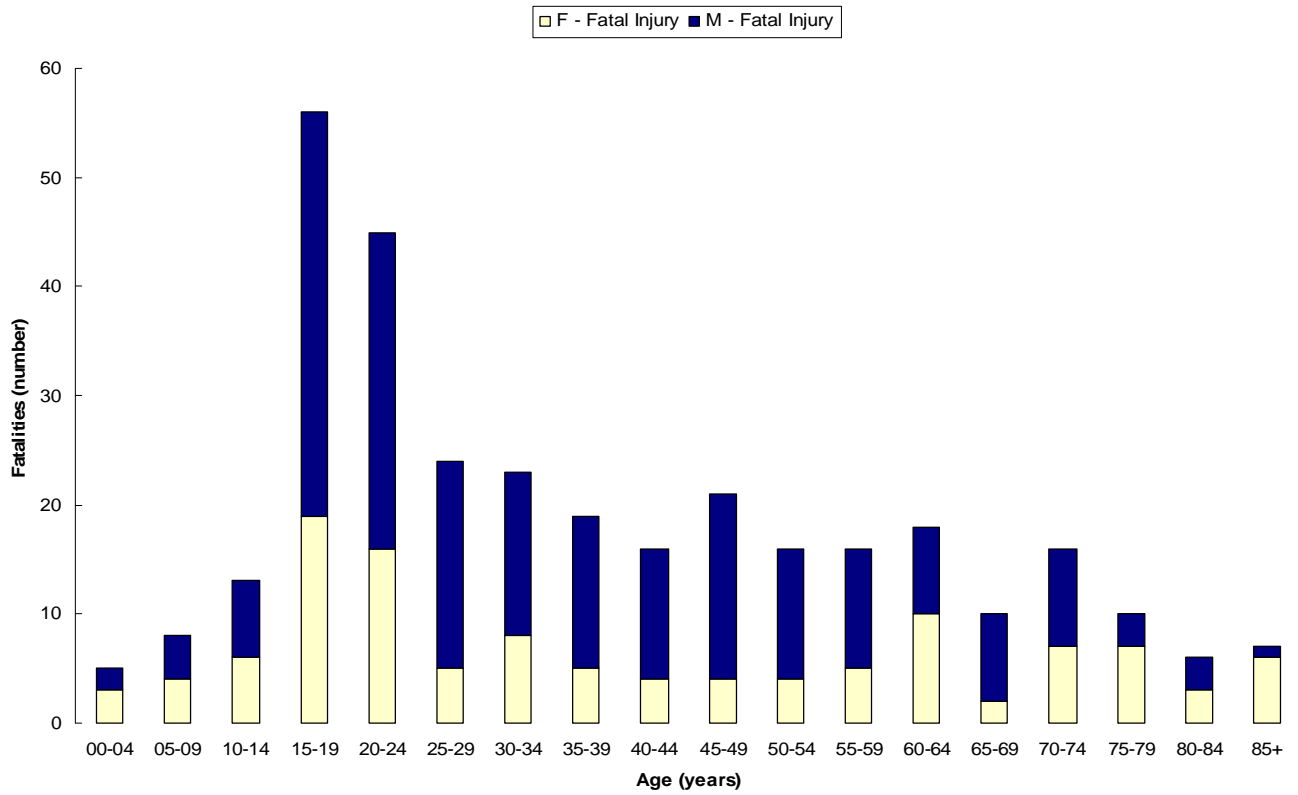


Table 2.05 Age of Crash Participants, Injured Persons and Fatalities, Utah 2002

Age	Non-Injured Crash Persons		Non-Fatally Injured Persons		Fatally Injured Persons		Total Crash Persons	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
00-04	5,170	4.7%	745	2.4%	5	1.5%	5,920	4.2%
05-09	3,632	3.3%	884	2.9%	8	2.4%	4,524	3.2%
10-14	3,578	3.3%	1,223	4.0%	13	4.0%	4,814	3.4%
15-19	21,454	19.5%	5,769	19.0%	56	17.0%	27,279	19.4%
20-24	17,560	16.0%	5,067	16.6%	45	13.7%	22,672	16.1%
25-29	10,661	9.7%	3,070	10.1%	24	7.3%	13,755	9.8%
30-34	8,106	7.4%	2,351	7.7%	23	7.0%	10,480	7.5%
35-39	6,754	6.1%	1,887	6.2%	19	5.8%	8,660	6.2%
40-44	6,787	6.2%	2,000	6.6%	16	4.9%	8,803	6.3%
45-49	5,684	5.2%	1,642	5.4%	21	6.4%	7,347	5.2%
50-54	4,529	4.1%	1,418	4.7%	16	4.9%	5,963	4.2%
55-59	3,212	2.9%	969	3.2%	16	4.9%	4,197	3.0%
60-64	2,404	2.2%	732	2.4%	18	5.5%	3,154	2.2%
65-69	1,731	1.6%	508	1.7%	10	3.0%	2,249	1.6%
70-74	1,386	1.3%	473	1.6%	16	4.9%	1,875	1.3%
75-79	1,127	1.0%	393	1.3%	10	3.0%	1,530	1.1%
80-84	754	0.7%	249	0.8%	6	1.8%	1,009	0.7%
85+	404	0.4%	142	0.5%	7	2.1%	553	0.4%
Missing	4,945	4.5%	911	3.0%	0	0.0%	5,856	4.2%
Total	109,878	100.0%	30,433	100.0%	329	100.0%	140,640	100.0%

There were 329 crash-related fatalities during 2002. Figure 2.07 shows almost a third of the fatalities (31%) occurred among those aged 15 to 24 years. The largest number of fatalities for males and females occurred in the 15 to 19 year old age group.

Figure 2.07 Age and Gender of Fatalities, Utah 2002



Section 3

Crashes Involving Pedestrians, 2002

Crashes Involving Pedestrians 1993 - 2002	3.2
Pedestrian Crash Severity.....	3.3
Pedestrian Crashes by County.....	3.4
Pedestrian Crash Times	3.6
Pedestrian Crash Characteristics	3.9
Pedestrian Crash Violations and Contributing Factors	3.10
Drivers Involved in Pedestrian Crashes	3.12
Pedestrian Injury Severity	3.14
Pedestrians by County	3.15
Pedestrian Characteristics	3.16

TABLES

Table 3.01 Crashes Involving Pedestrians, Utah 1993 - 2002
Table 3.02 Crashes Involving Pedestrians by County, Utah 2002
Table 3.03 Crashes Involving Pedestrians by County, Utah 2000 - 2002
Table 3.04 Hour of Crashes Involving Pedestrians, Utah 2002
Table 3.05 Month of Crashes Involving Pedestrians, Utah 2002
Table 3.06 Day of Week for Crashes Involving Pedestrians, Utah 2002
Table 3.07 Urban/Rural Location of Crashes Involving Pedestrians, Utah 2002
Table 3.08 Type of Vehicles Involved in Crashes Involving Pedestrians, Utah 2002
Table 3.09 Violations for Crashes Involving Pedestrians, Utah 2002
Table 3.10 Contributing Factors in Crashes Involving Pedestrians, Utah 2002
Table 3.11 Age of Drivers in Crashes Involving Pedestrians, Utah 2002
Table 3.12 Gender of Drivers in Crashes Involving Pedestrians, Utah 2002
Table 3.13 Pedestrians by County, Utah 2002
Table 3.14 Age of Pedestrians, Utah 2002
Table 3.15 Gender of Pedestrians, Utah 2002
Table 3.16 Pedestrian Actions Prior to Crash, Utah 2002

FIGURES

Figure 3.01 Crashes Involving Pedestrians, Utah 1993 - 2002
Figure 3.02 Severity of Pedestrian-Motor Vehicle Crashes as Reported by Police, Utah 2002
Figure 3.03 Hour of Crashes Involving Pedestrians, Utah 2002
Figure 3.04 Day of Week for Crashes Involving Pedestrians, Utah 2002
Figure 3.05 Age of Drivers in Crashes Involving Pedestrians, Utah 2002
Figure 3.06 Pedestrian Injury Severity as Reported by Police, Utah 2002
Figure 3.07 Age of Pedestrians, Utah 2002

Crashes Involving Pedestrians 1993 - 2002

Table 3.01 and Figure 3.01 show the trends in pedestrian crashes for 1993 - 2002. The highest rate per 10,000 population of pedestrian crashes and pedestrian injury crashes occurred in 1996, while the highest rate of fatal pedestrian crashes occurred in 1995 and again in 1998. Part of the decrease in reported pedestrian crashes from 1997 to 2000 is due to a change in reporting criteria initiated in 1997 that excluded private property crashes. As a result, pedestrian crashes that occurred in a parking lot, driveway, sidewalk, and other private roadways would not be included from 1997 forward.

Figure 3.01 Crashes Involving Pedestrians, Utah 1993 - 2002

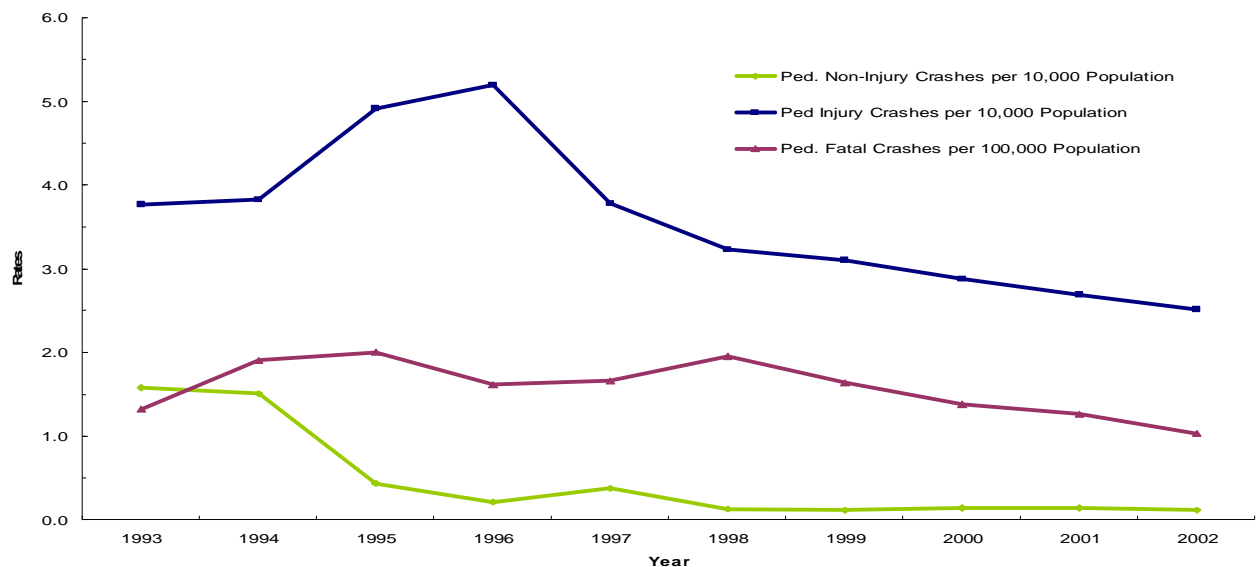


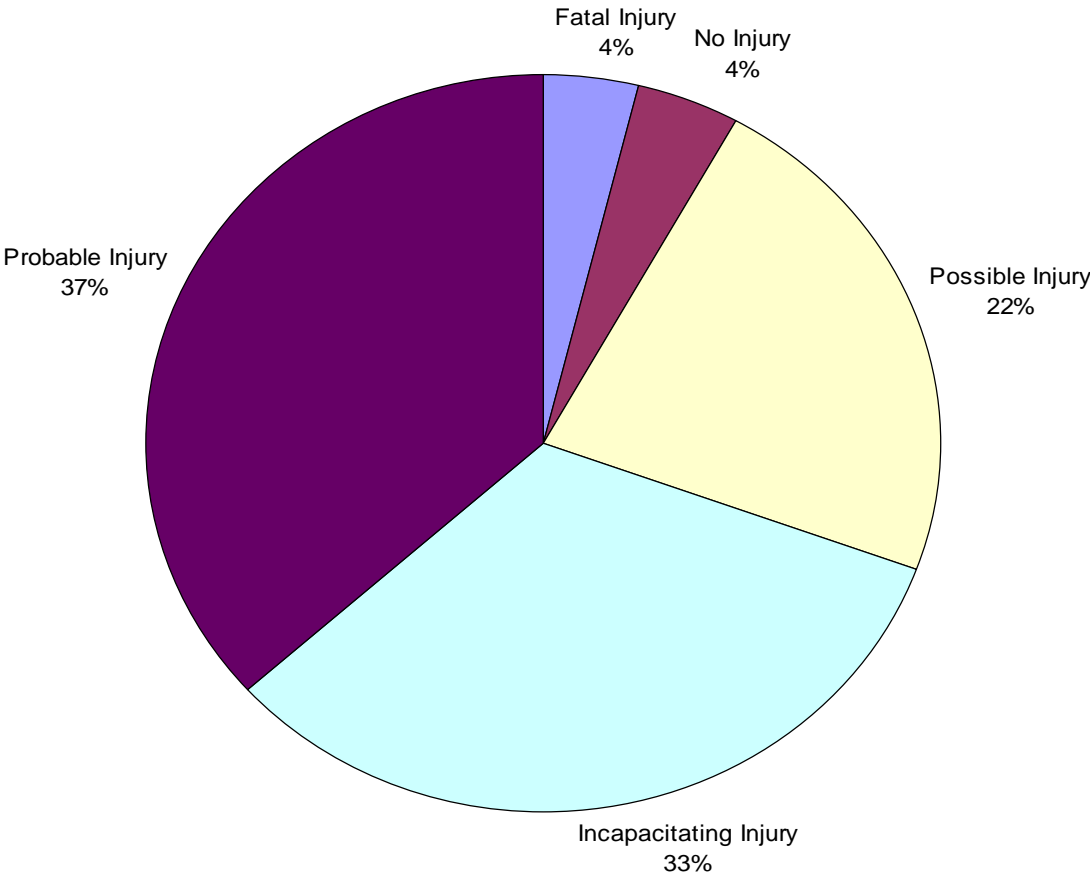
Table 3.01 Crashes Involving Pedestrians, Utah 1993 - 2002

Year	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Rate per 10,000 Population	Number	Rate per 10,000 Population	Number	Rate per 100,000 Population	Number	Rate per 10,000 Population
1993	298	1.6	712	3.8	25	1.3	1,035	5.5
1994	293	1.5	745	3.8	37	1.9	1,075	5.5
1995	87	0.4	981	4.9	40	2.0	1,108	5.6
1996	44	0.2	1,060	5.2	33	1.6	1,137	5.6
1997	77	0.4	773	3.8	34	1.7	884	4.3
1998	28	0.1	679	3.2	41	2.0	748	3.6
1999	24	0.1	661	3.1	35	1.6	720	3.4
2000	31	0.1	626	2.9	30	1.4	687	3.2
2001	30	0.1	597	2.7	28	1.3	655	3.0
2002	28	0.1	584	2.5	24	1.0	636	2.7

Pedestrian Crash Severity

Figure 3.02 shows that the majority of pedestrian crashes (96.0%) resulted in some level of injury compared to 37.2% of all motor vehicle crashes (see Figure 1.03). Moreover, 4.0% of pedestrian crashes resulted in a fatality, compared to 0.5% of all motor vehicle crashes.

Figure 3.02 Severity of Pedestrian Motor Vehicle Crashes as Reported by Police, Utah 2002 (n=723 crashes)



Pedestrian Crashes by County

The rates of pedestrian-involved crashes, injury crashes and fatal crashes by county are shown in Table 3.02. There are two different rates given; one based on the miles traveled in the county, and another on the population of the county. The top three counties for pedestrian-involved crashes based on miles traveled were Salt Lake, Weber, and Cache. The top three counties for pedestrian involved injury crashes based on miles traveled were Salt Lake, Weber, and Cache. The top counties for fatal crashes per miles traveled were Weber, Emery, and Cache.

Table 3.02 Crashes Involving Pedestrians by County, Utah 2002

County	Ped. Non-Injury Crashes			Ped. Injury Crashes			Ped. Fatal Crashes			Ped. Total Crashes		
	Rate per		Population	Rate per		Population	Rate per		Population	Rate per		Population
	100	10,000		100	10,000		1000	10,000		100	10,000	
Number	MVMT	Population	Number	MVMT	Population	Number	MVMT	Population	Number	MVMT	Population	
Beaver	0	0.0	0.0	2	0.8	3.2	0	0.0	0.0	2	0.8	3.2
Box Elder	0	0.0	0.0	4	0.4	0.9	0	0.0	0.0	4	0.4	0.9
Cache	0	0.0	0.0	24	2.9	2.5	2	2.4	0.2	26	3.1	2.7
Carbon	2	0.6	1.0	1	0.3	0.5	0	0.0	0.0	3	0.9	1.5
Daggett	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Davis	2	0.1	0.1	49	2.1	2.0	3	1.3	0.1	54	2.3	2.2
Duchesne	0	0.0	0.0	1	0.5	0.7	0	0.0	0.0	1	0.5	0.7
Emery	0	0.0	0.0	0	0.0	0.0	1	2.7	0.9	1	0.3	0.9
Garfield	0	0.0	0.0	2	1.5	4.3	0	0.0	0.0	2	1.5	4.3
Grand	0	0.0	0.0	1	0.3	1.2	0	0.0	0.0	1	0.3	1.2
Iron	0	0.0	0.0	3	0.5	0.9	0	0.0	0.0	3	0.5	0.9
Juab	0	0.0	0.0	2	0.5	2.3	0	0.0	0.0	2	0.5	2.3
Kane	0	0.0	0.0	1	0.8	1.6	0	0.0	0.0	1	0.8	1.6
Millard	0	0.0	0.0	1	0.2	0.8	0	0.0	0.0	1	0.2	0.8
Morgan	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Piute	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Rich	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Salt Lake	15	0.2	0.2	315	3.9	3.4	5	0.6	0.1	335	4.2	3.6
San Juan	0	0.0	0.0	3	1.1	2.1	0	0.0	0.0	3	1.1	2.1
Sanpete	0	0.0	0.0	3	1.3	1.3	0	0.0	0.0	3	1.3	1.3
Sevier	1	0.2	0.5	3	0.7	1.6	0	0.0	0.0	4	1.0	2.1
Summit	0	0.0	0.0	3	0.4	0.9	0	0.0	0.0	3	0.4	0.9
Tooele	0	0.0	0.0	3	0.4	0.7	1	1.2	0.2	4	0.5	0.9
Uintah	0	0.0	0.0	7	2.4	2.7	0	0.0	0.0	7	2.4	2.7
Utah	2	0.1	0.1	87	2.6	2.2	3	0.9	0.1	92	2.7	2.4
Wasatch	1	0.4	0.6	4	1.5	2.4	0	0.0	0.0	5	1.9	3.0
Washington	1	0.1	0.1	15	1.5	1.5	1	1.0	0.1	17	1.8	1.7
Wayne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Weber	4	0.3	0.2	50	3.1	2.5	8	5.0	0.4	62	3.9	3.1
Statewide	28	0.1	0.1	584	2.4	2.5	24	1.0	0.1	636	2.6	2.7

Table 3.03 compares pedestrian crashes in 2001 to 2002. Most counties experienced a decrease in pedestrian crashes for 2002 compared to 2001. Utah and Uintah counties show an increase in total pedestrian crashes for 2002.

Table 3.03. Crashes Involving Pedestrians by County, Utah 2001 - 2002

County	Ped. Non-Injury Crashes				Ped. Injury Crashes				Ped. Fatal Crashes				Ped. Total Crashes			
	2001		2002		2001		2002		2001		2002		2001		2002	
	Number	Rate per 100 MVMT	Number	Rate per 100 MVMT	Number	Rate per 100 MVMT	Number	Rate per 100 MVMT	Number	Rate per 1000 MVMT	Number	Rate per 1000 MVMT	Number	Rate per 100 MVMT	Number	Rate per 100 MVMT
Beaver	0	0.0	0	0.0	1	0.4	2	0.8	0	0.0	0	0.0	1	0.4	2	0.8
Box Elder	0	0.0	0	0.0	13	1.4	4	0.4	0	0.0	0	0.0	13	1.4	4	1.7
Cache	0	0.0	0	0.0	20	2.5	24	2.9	1	1.3	2	2.4	21	2.6	26	3.1
Carbon	0	0.0	2	0.6	1	0.3	1	0.3	0	0.0	0	0.0	1	0.3	3	0.4
Daggett	0	0.0	0	0.0	0	0.0	0	0.0	1	39.2	0	0.0	1	3.9	0	0.0
Davis	1	0.0	2	0.1	54	2.5	49	2.1	3	1.4	3	1.3	58	2.7	54	196.5
Duchesne	0	0.0	0	0.0	2	1.0	1	0.5	0	0.0	0	0.0	2	1.0	1	0.5
Emery	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.7	0	0.0	1	0.5
Garfield	0	0.0	0	0.0	0	0.0	2	1.5	0	0.0	0	0.0	0	0.0	2	1.5
Grand	0	0.0	0	0.0	1	0.4	1	0.3	0	0.0	0	0.0	1	0.4	1	0.7
Iron	0	0.0	0	0.0	3	0.5	3	0.5	1	1.7	0	0.0	4	0.7	3	0.5
Juab	0	0.0	0	0.0	0	0.0	2	0.5	1	2.7	0	0.0	1	0.3	2	0.3
Kane	0	0.0	0	0.0	1	0.8	1	0.8	0	0.0	0	0.0	1	0.8	1	0.8
Millard	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	1	0.8
Morgan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Piute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rich	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Salt Lake	20	0.3	15	0.2	323	4.2	315	3.9	13	1.7	5	0.6	356	4.6	335	769.2
San Juan	0	0.0	0	0.0	0	0.0	3	1.1	1	3.5	0	0.0	1	0.3	3	1.1
Sanpete	0	0.0	0	0.0	5	2.2	3	1.3	0	0.0	0	0.0	5	2.2	3	1.1
Sevier	0	0.0	1	0.2	3	0.8	3	0.7	0	0.0	0	0.0	3	0.8	4	1.0
Summit	0	0.0	0	0.0	4	0.6	3	0.4	0	0.0	0	0.0	4	0.6	3	0.7
Tooele	0	0.0	0	0.0	7	0.9	3	0.4	1	1.3	1	1.2	8	1.1	4	0.5
Uintah	0	0.0	0	0.0	1	0.3	7	2.4	0	0.0	0	0.0	1	0.3	7	0.9
Utah	3	0.1	2	0.1	75	2.4	87	2.6	1	0.3	3	0.9	79	2.5	92	2.7
Wasatch	0	0.0	1	0.4	4	1.5	4	1.5	0	0.0	0	0.0	4	1.5	5	0.1
Washington	1	0.1	1	0.1	17	1.8	15	1.5	1	1.1	1	1.0	19	2.0	17	1.8
Wayne	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Weber	5	0.3	4	0.3	62	4.1	50	3.1	4	2.7	8	5.0	71	4.7	62	3.9
Statewide	30	0.1	28	0.1	597	2.6	584	2.4	28	1.2	24	1.0	655	2.8	636	39.9

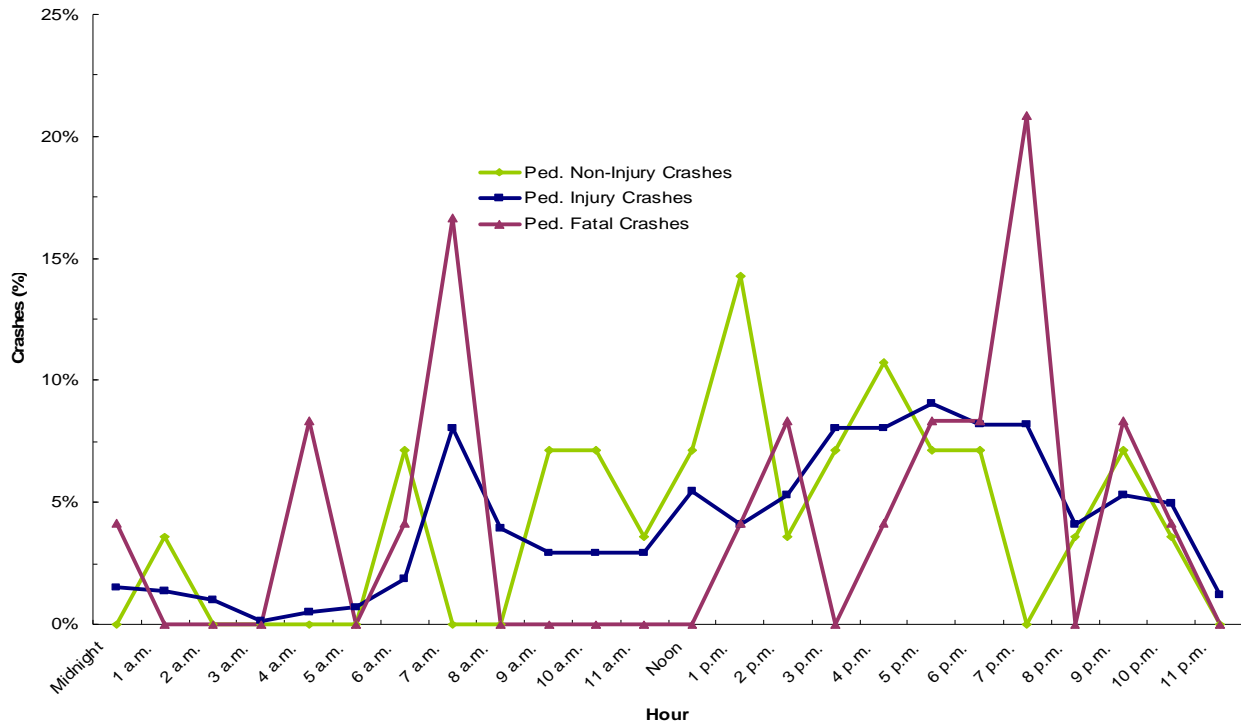
Pedestrian Crash Times

Table 3.04 and Figure 3.03 show that pedestrian crashes without injury peaked at 1 p.m. and pedestrian injury crashes peaked during the afternoon (3 p.m. to 7 p.m.) There were a high percent of both non-injury and injury pedestrian crashes at 9 p.m. Fatal pedestrian crashes occurred most often at 7 p.m and 7 a.m had the second highest percentage.

Table 3.04 Hour of Crashes Involving Pedestrians, Utah 2002

Hour	Ped. Non-Injury Crashes		Ped. Injury Crashes		Ped. Fatal Crashes		Ped. Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Midnight	0	0.0%	9	1.5%	1	4.2%	10	1.6%
1 a.m.	1	3.6%	8	1.4%	0	0.0%	9	1.4%
2 a.m.	0	0.0%	6	1.0%	0	0.0%	6	0.9%
3 a.m.	0	0.0%	1	0.2%	0	0.0%	1	0.2%
4 a.m.	0	0.0%	3	0.5%	2	8.3%	5	0.8%
5 a.m.	0	0.0%	4	0.7%	0	0.0%	4	0.6%
6 a.m.	2	7.1%	11	1.9%	1	4.2%	14	2.2%
7 a.m.	0	0.0%	47	8.0%	4	16.7%	51	8.0%
8 a.m.	0	0.0%	23	3.9%	0	0.0%	23	3.6%
9 a.m.	2	7.1%	17	2.9%	0	0.0%	19	3.0%
10 a.m.	2	7.1%	17	2.9%	0	0.0%	19	3.0%
11 a.m.	1	3.6%	17	2.9%	0	0.0%	18	2.8%
Noon	2	7.1%	32	5.5%	0	0.0%	34	5.3%
1 p.m.	4	14.3%	24	4.1%	1	4.2%	29	4.6%
2 p.m.	1	3.6%	31	5.3%	2	8.3%	34	5.3%
3 p.m.	2	7.1%	47	8.0%	0	0.0%	49	7.7%
4 p.m.	3	10.7%	47	8.0%	1	4.2%	51	8.0%
5 p.m.	2	7.1%	53	9.1%	2	8.3%	57	9.0%
6 p.m.	2	7.1%	48	8.2%	2	8.3%	52	8.2%
7 p.m.	0	0.0%	48	8.2%	5	20.8%	53	8.3%
8 p.m.	1	3.6%	24	4.1%	0	0.0%	25	3.9%
9 p.m.	2	7.1%	31	5.3%	2	8.3%	35	5.5%
10 p.m.	1	3.6%	29	5.0%	1	4.2%	31	4.9%
11 p.m.	0	0.0%	7	1.2%	0	0.0%	7	1.1%
Grand Total	28	100.0%	584	100.0%	24	100.0%	636	100.0%

Figure 3.03 Hour of Crashes Involving Pedestrians, Utah 2002



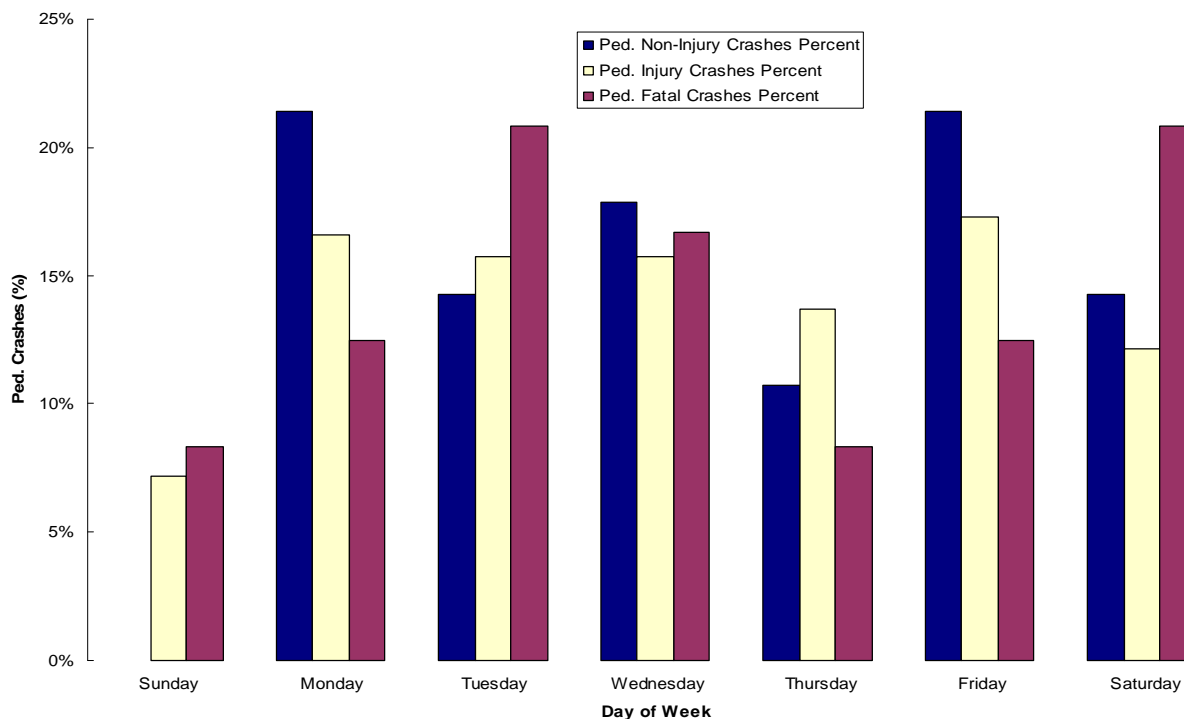
March, July, and September had the highest rates of pedestrian crashes and pedestrian injury crashes (Table 3.05). The highest fatal pedestrian crashes occurred in the months of July, September, and October.

Table 3.05 Month of Crashes Involving Pedestrians, Utah 2002

Crash Month	Ped. Non-Injury Crashes		Ped. Injury Crashes		Ped. Fatal Crashes		Ped. Total Crashes	
	Number	Rate per Day	Number	Rate per Day	Number	Rate per Day	Number	Rate per Day
January	2	0.1	51	1.6	1	0.0	54	1.7
February	1	0.0	44	1.6	2	0.1	47	1.7
March	4	0.1	57	1.8	1	0.0	62	2.0
April	2	0.1	45	1.5	2	0.1	49	1.6
May	3	0.1	36	1.2	2	0.1	41	1.3
June	2	0.1	50	1.7	1	0.0	53	1.8
July	2	0.1	56	1.8	4	0.1	62	2.0
August	2	0.1	37	1.2	2	0.1	41	1.3
September	1	0.0	56	1.9	3	0.1	60	2.0
October	5	0.2	51	1.6	3	0.1	59	1.9
November	2	0.1	46	1.5	2	0.1	50	1.7
December	2	0.1	55	1.8	1	0.0	58	1.9
Total	28	0.1	584	1.6	24	0.1	636	1.7

Figure 3.04 shows that the highest number of total pedestrian crashes and pedestrian injury crashes occurred on Friday. The highest fatalities occurred on Tuesday and Saturday.

Figure 3.04 Day of Week for Crashes Involving Pedestrians, Utah 2002



Note: The above graph is based on percentages for the different crash categories. To read the above graph, look at one category across the days of the week. For example, look at only the white bars (i.e. pedestrian injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 3.06 Day of Week Crashes Involving Pedestrians, Utah 2002

Day of Week	Ped. Non-Injury Crashes		Ped. Injury Crashes		Ped. Fatal Crashes		Ped. Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Sunday	0	0.0%	42	7.2%	2	8.3%	44	6.9%
Monday	6	21.4%	97	16.6%	3	12.5%	106	16.7%
Tuesday	4	14.3%	92	15.8%	5	20.8%	101	15.9%
Wednesday	5	17.9%	92	15.8%	4	16.7%	101	15.9%
Thursday	3	10.7%	80	13.7%	2	8.3%	85	13.4%
Friday	6	21.4%	101	17.3%	3	12.5%	110	17.3%
Saturday	4	14.3%	71	12.2%	5	20.8%	80	12.6%
Missing	0	0.0%	9	1.5%	0	0.0%	9	1.4%
Total	28	100.0%	584	100.0%	24	100.0%	636	100.0%

Pedestrian Crash Characteristics

Urban areas accounted for 82.8% of total pedestrian crashes and 91.7% of the fatal pedestrian crashes (Table 3.07).

Table 3.07 Urban / Rural Location of Crashes Involving Pedestrians, Utah 2002

Urban / Rural Location	Ped. Non-Injury Crashes		Ped. Injury Crashes		Ped. Fatal Crashes		Ped. Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Rural Area - Up to 5,000	5	17.9%	98	16.8%	2	8.3%	105	16.5%
Small Urban 5,000-49,999	2	7.1%	23	3.9%	2	8.3%	27	4.2%
Urban 50,000-199,999	0	0.0%	16	2.7%	1	4.2%	17	2.7%
Urban 200,000 or More	21	75.0%	443	75.9%	19	79.2%	483	75.9%
Missing	0	0.0%	4	0.7%	0	0.0%	4	0.6%
Total	28	100.0%	584	100.0%	24	100.0%	636	100.0%

Table 3.08 shows that the largest percentage of vehicles involved in pedestrian crashes and injury crashes were passenger cars, while pickup trucks and vans were involved in the largest percentage of fatal pedestrian crashes. School buses were involved in 3 pedestrian crashes of which all resulted in an injury. Large/semi trucks were involved in 5 pedestrian crashes resulting in 3 injured pedestrians and 2 fatalities.

Table 3.08 Type of Vehicles Involved in Crashes Involving Pedestrians, Utah 2002

Vehicle Type	Ped. Non-Injury		Ped. Injury Crashes		Ped. Fatal Crashes		Ped. Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Passenger Car	20	52.6%	336	55.7%	7	26.9%	363	54.4%
Light Truck, Van or SUV	17	44.7%	227	37.6%	16	61.5%	260	39.0%
Other	1	2.6%	33	5.5%	0	0.0%	34	5.1%
Large/ Semi Truck	0	0.0%	3	0.5%	2	7.7%	5	0.7%
Motorcycle	0	0.0%	3	0.5%	0	0.0%	3	0.4%
School Bus	0	0.0%	1	0.2%	1	3.8%	2	0.3%
Grand Total	38	100.0%	603	100.0%	26	100.0%	667	100.0%

Note: More than one vehicle may be involved in a pedestrian crash. Unknown vehicles are "hit and run" vehicles.

Pedestrian Crash Violations and Contributing Factors

There were 648 drivers involved in pedestrian crashes, of which 227 (35.1%) were cited for a traffic violation (Table 3.09). More than half (54.6%) of the violations were for "failure to yield right of way". Only 5 of the 24 (17.9%) drivers involved in fatal pedestrian crashes received a citation at the crash scene.

Table 3.09 Violations for Crashes Involving Pedestrians, Utah 2002

Violations	Ped. Non-Injury Crashes		Ped. Injury Crashes		Ped. Fatal Crashes		Ped. Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Failure to Yield Right of Way	3	25.0%	119	56.7%	2	40.0%	124	54.6%
Improper Lookout	3	25.0%	31	14.8%	0	0.0%	34	15.0%
Other Non-Moving Violations	1	8.3%	23	11.0%	0	0.0%	24	10.6%
All Other Moving Violations	0	0.0%	8	3.8%	0	0.0%	8	3.5%
Negligent Collision	1	8.3%	7	3.3%	0	0.0%	8	3.5%
Red Light	0	0.0%	6	2.9%	0	0.0%	6	2.6%
Driving Under the Influence	0	0.0%	4	1.9%	2	40.0%	6	2.6%
Hit and Run	2	16.7%	3	1.4%	0	0.0%	5	2.2%
Improper Backing	1	8.3%	3	1.4%	0	0.0%	4	1.8%
Reckless Driving	0	0.0%	3	1.4%	0	0.0%	3	1.3%
Stop Sign	1	8.3%	0	0.0%	0	0.0%	1	0.4%
Improper Turn	0	0.0%	1	0.5%	0	0.0%	1	0.4%
Speeding	0	0.0%	1	0.5%	0	0.0%	1	0.4%
Vehicle Homicide	0	0.0%	0	0.0%	1	20.0%	1	0.4%
Improper Passing	0	0.0%	1	0.5%	0	0.0%	1	0.4%
Grand Total	12	100.0%	210	100.0%	5	100.0%	227	100.0%

The factors contributing to pedestrian crashes are listed in Table 3.10. These factors were coded by the officers at the scene for vehicles involved in the crash. The officer may record up to two different contributing factors. The primary contributing factor recorded for all types of pedestrian crashes was "improper lookout." "Improper lookout" was also the important contributing factor in fatal pedestrian crashes. "DUI" and "had been drinking," account for 2.6% of contributing factors in all pedestrian crashes. "Failing to Yield the Right of Way" and "speed too fast" were important factors in 36.6% of pedestrian crashes.

Table 3.10 Contributing Factors in Crashes Involving Pedestrians, Utah 2002

Contributing Factors	Ped. Non-Injury Crashes		Ped. Injury Crashes		Ped. Fatal Crashes		Ped. Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Improper Lookout	7	24.1%	164	24.8%	7	31.8%	178	25.0%
Failed to Yield the Right of Way	6	20.7%	95	14.4%	2	9.1%	103	14.5%
Speed Too Fast	4	13.8%	78	11.8%	4	18.2%	86	12.1%
Following Too Closely	2	6.9%	69	10.4%	2	9.1%	73	10.3%
Other Improper Driving	2	6.9%	63	9.5%	4	18.2%	69	9.7%
Improper Turn	1	3.4%	29	4.4%	1	4.5%	31	4.4%
Disregarded Traffic Signal	0	0.0%	25	3.8%	1	4.5%	26	3.7%
Driving Under the Influence	0	0.0%	16	2.4%	0	0.0%	16	2.2%
Improper Overtaking	1	3.4%	13	2.0%	1	4.5%	15	2.1%
Hit and Run	1	3.4%	13	2.0%	0	0.0%	14	2.0%
Drove Left of Center	0	0.0%	12	1.8%	0	0.0%	12	1.7%
Asleep	0	0.0%	12	1.8%	0	0.0%	12	1.7%
Non-Contact Vehicle Involved	1	3.4%	10	1.5%	0	0.0%	11	1.5%
Improper Backing	2	6.9%	9	1.4%	0	0.0%	11	1.5%
Tires Defective	0	0.0%	7	1.1%	0	0.0%	7	1.0%
Passed Stop Sign	0	0.0%	7	1.1%	0	0.0%	7	1.0%
Fatigued	0	0.0%	6	0.9%	0	0.0%	6	0.8%
Improper Parking	0	0.0%	4	0.6%	0	0.0%	4	0.6%
Other Defective Condition	0	0.0%	3	0.5%	0	0.0%	3	0.4%
Had Been Drinking	0	0.0%	3	0.5%	0	0.0%	3	0.4%
Failed to Signal	1	3.4%	1	0.2%	0	0.0%	2	0.3%
Other Lights or Reflecting/Defective	1	3.4%	1	0.2%	0	0.0%	2	0.3%
Sick or Ill	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Eyesight Defective Uncorrected	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Brakes Defective	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Towed Vehicle	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Jackknife	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Windshield Not Clear	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Wrong Side of Road	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Cargo Loss or Shift	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Stolen	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Separation of Units	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Vehicle Rolling in Traffic Lane	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Headlights Insufficient or Out	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Down Hill Runaway	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Total	29	100.0%	661	100.0%	22	100.0%	712	100.0%

Drivers Involved in Pedestrian Crashes

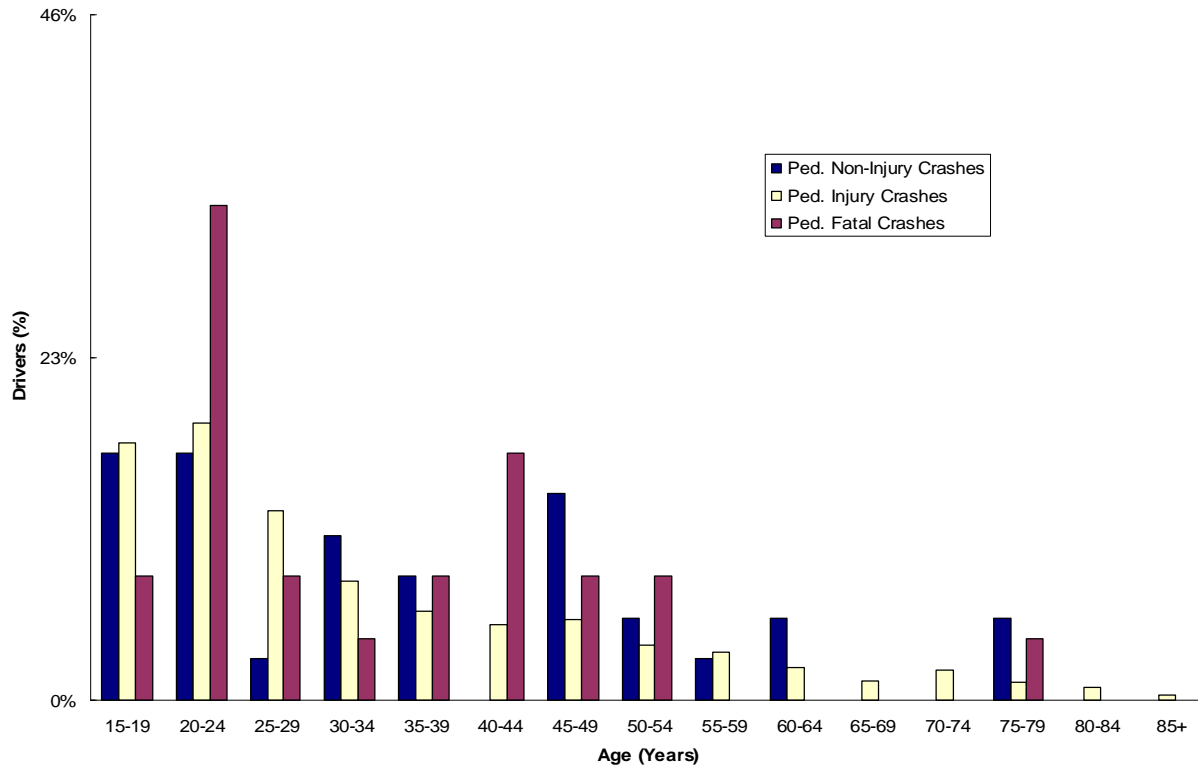
Table 3.11 and Figure 3.05 shows that drivers between the ages of 20 to 24 years represented the greatest percentage of drivers involved in all pedestrian crashes (19.1%), pedestrian injury crashes (18.7%), and fatal pedestrian crashes (33.3%). The next highest age group represented in pedestrian fatal crashes was the 40 to 44 year age group.

Table 3.11 Age of Drivers in Crashes Involving Pedestrians, Utah 2002

Driver's Age	Ped. Non-Injury Crashes		Ped. Injury Crashes		Ped. Fatal Crashes		Ped. Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
05-09	0	0.0%	1	0.2%	0	0	1	0.2%
10-14	0	0.0%	1	0.2%	0	0	1	0.2%
15-19	6	16.7%	102	17.3%	2	8.3%	110	17.0%
20-24	6	16.7%	110	18.7%	8	33.3%	124	19.1%
25-29	1	2.8%	75	12.8%	2	8.3%	78	12.0%
30-34	4	11.1%	47	8.0%	1	4.2%	52	8.0%
35-39	3	8.3%	35	6.0%	2	8.3%	40	6.2%
40-44	0	0.0%	30	5.1%	4	16.7%	34	5.2%
45-49	5	13.9%	32	5.4%	2	8.3%	39	6.0%
50-54	2	5.6%	22	3.7%	2	8.3%	26	4.0%
55-59	1	2.8%	19	3.2%	0	0.0%	20	3.1%
60-64	2	5.6%	13	2.2%	0	0.0%	15	2.3%
65-69	0	0.0%	8	1.4%	0	0.0%	8	1.2%
70-74	0	0.0%	12	2.0%	0	0.0%	12	1.9%
75-79	2	5.6%	7	1.2%	1	4.2%	10	1.5%
80-84	0	0.0%	5	0.9%	0	0.0%	5	0.8%
85+	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Missing	4	11.1%	67	11.4%	0	0.0%	71	11.0%
Total	36	100.0%	588	100.0%	24	100.0%	648	100.0%

*Note: More than one driver may be involved in a pedestrian crash and driver information may be missing (e.g. a hit and run).

Figure 3.05 Age of Drivers in Crashes Involving Pedestrians, Utah 2002



Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the age groups. For example, look at only the white bars (i.e. driver in pedestrian injury crashes) from age group to age group. Do not compare the heights of the different crash categories for a specific age group.

Slightly over half (54.1%) of drivers involved in total pedestrian crashes were male (Table 3.12) and male drivers represented 66.7% of drivers involved in fatal pedestrian crashes.

Table 3.12 Gender of Drivers in Crashes Involving Pedestrians, Utah 2002

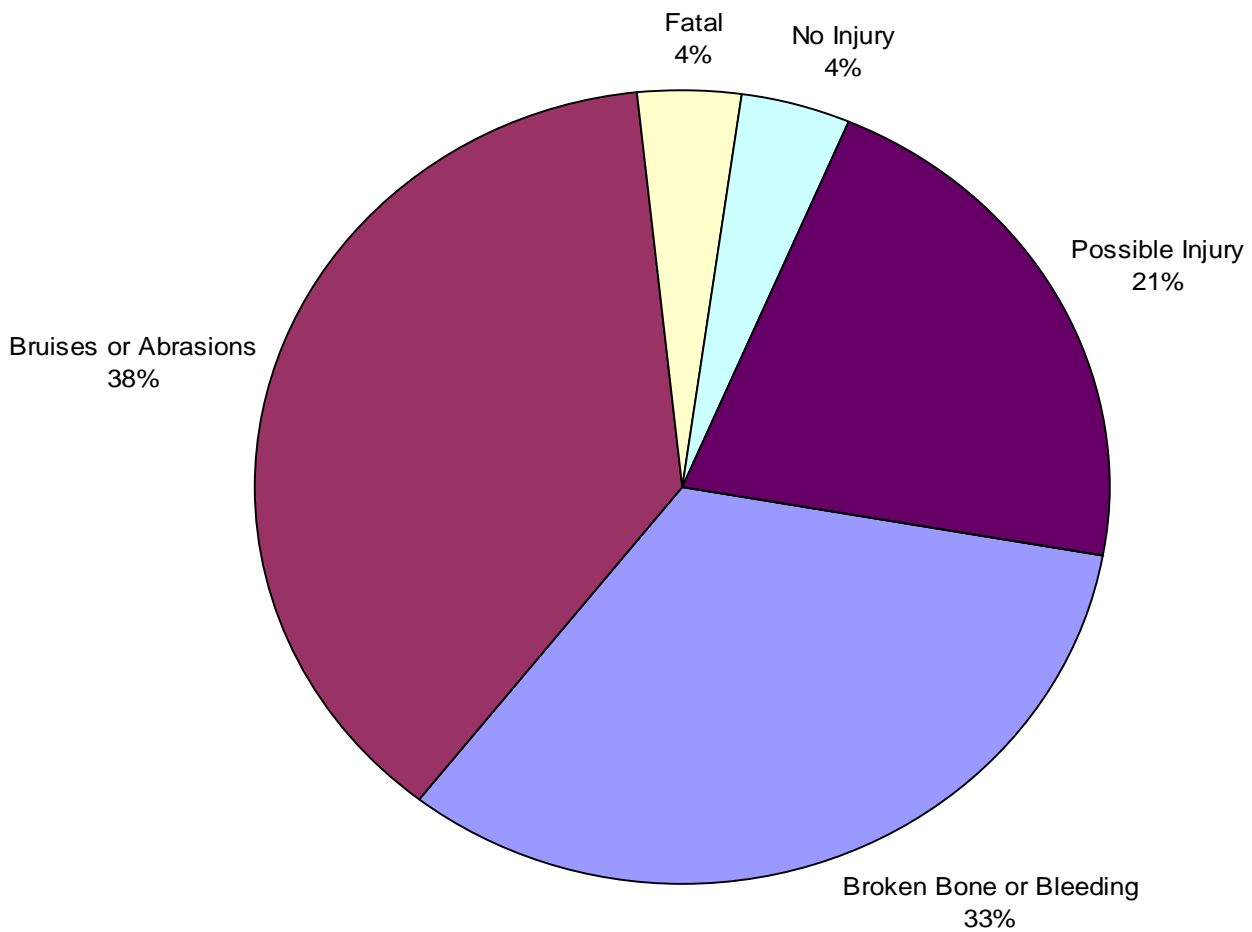
Driver's Gender	Ped. Non-Injury Crashes		Ped. Injury Crashes		Ped. Fatal Crashes		Ped. Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	19	52.8%	231	39.4%	8	33.3%	258	39.9%
Male	14	38.9%	320	54.5%	16	66.7%	350	54.1%
Unknown	3	8.3%	36	6.1%	0	0.0%	39	6.0%
Total	36	100.0%	587	100.0%	24	100.0%	647	100.0%

*Note: More than one driver may be involved in a pedestrian crash and driver information may be missing (e.g., a hit and run).

Pedestrian Injury Severity

Figure 3.06 shows that 96.0% of pedestrians involved in a crash sustained an injury compared to 21.9% of all motor vehicle crash participants (see Figure 2.03). The percentage of pedestrian fatalities (4.0%) was higher than the percentage for all motor vehicle crash participants (0.2%).

Figure 3.06 Pedestrian Injury Severity as Reported by Police, Utah 2002 (n=723 pedestrians)



Pedestrians by County

There were 723 pedestrians involved in crashes during 2002. This is approximately 4% less than the number of recorded pedestrians involved in crashes during 2001. Table 3.13 shows the number of pedestrians, injured pedestrians and pedestrians killed in motor vehicle crashes by county. Garfield, Grand, Salt Lake, and Beaver Counties had the highest rates of total pedestrians per 10,000 population. While Salt Lake, Weber, and Cache had the highest rate of injured pedestrians per million vehicle miles traveled. Emery and Weber had the highest rate of pedestrians killed.

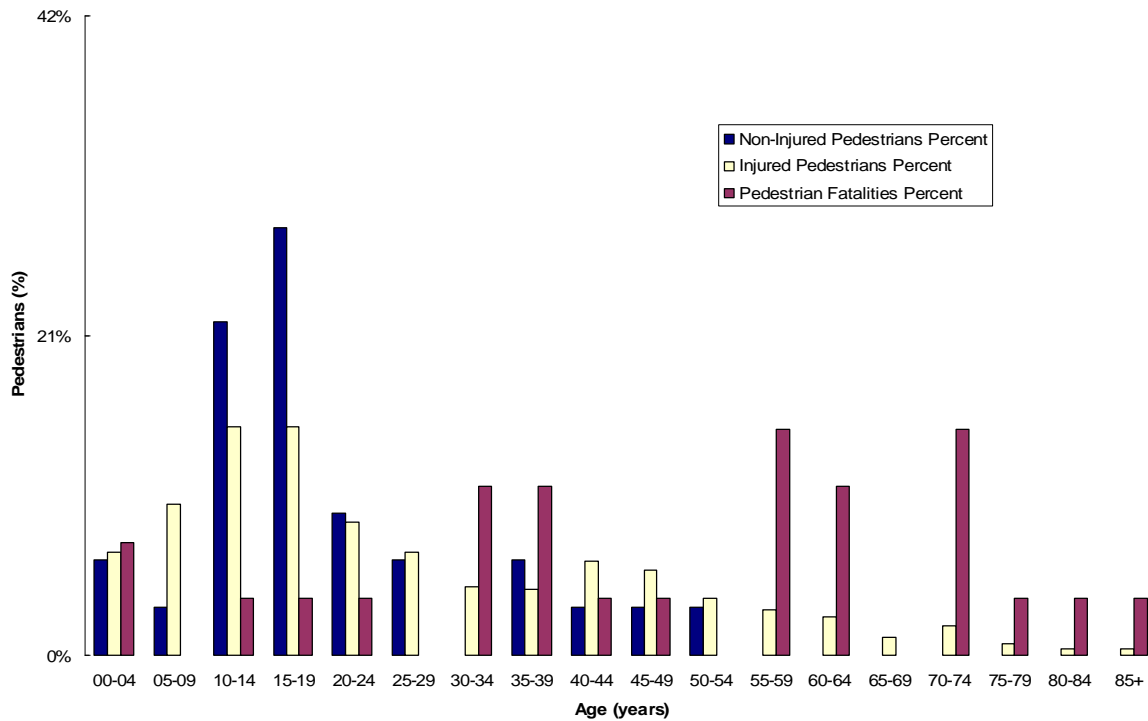
Table 3.13 Pedestrians by County, Utah 2002

County	Non-Injured Pedestrians			Injured Pedestrians			Pedestrian Fatalities			Total Pedestrians		
	Number	Rate per 100 MVMT	Rate per 10,000 Population	Number	Rate per 100 MVMT	Rate per 10,000 Population	Number	Rate per 1000 MVMT	Rate per 10,000 Population	Number	Rate per 100 MVMT	Rate per 10,000 Population
Beaver	0	0.0	0.0	3	1.2	4.3	0	0.0	0.0	3	1.2	4.3
Box Elder	0	0.0	0.0	5	0.5	1.2	1	1.0	0.2	6	0.6	1.4
Cache	0	0.0	0.0	30	3.6	3.2	2	2.4	0.2	32	3.9	3.4
Carbon	3	0.9	1.3	1	0.3	0.4	0	0.0	0.0	4	1.2	1.8
Daggett	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Davis	2	0.1	0.1	59	2.6	2.5	4	1.7	0.2	65	2.8	2.8
Duchesne	0	0.0	0.0	1	0.5	0.7	0	0.0	0.0	1	0.5	0.7
Emery	0	0.0	0.0	0	0.0	0.0	1	2.7	0.9	1	0.3	0.9
Garfield	0	0.0	0.0	3	2.2	6.3	0	0.0	0.0	3	2.2	6.3
Grand	1	0.3	0.9	4	1.4	3.6	0	0.0	0.0	5	1.7	4.6
Iron	0	0.0	0.0	3	0.5	0.9	0	0.0	0.0	3	0.5	0.9
Juab	0	0.0	0.0	2	0.5	2.4	0	0.0	0.0	2	0.5	2.4
Kane	0	0.0	0.0	3	2.3	4.0	0	0.0	0.0	3	2.3	4.0
Millard	0	0.0	0.0	1	0.2	0.8	0	0.0	0.0	1	0.2	0.8
Morgan	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Piute	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Rich	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Salt Lake	17	0.2	0.2	353	4.4	4.0	5	0.6	0.1	375	4.7	4.3
San Juan	0	0.0	0.0	3	1.1	2.2	0	0.0	0.0	3	1.1	2.2
Sanpete	0	0.0	0.0	3	1.3	1.3	0	0.0	0.0	3	1.3	1.3
Sevier	1	0.2	0.5	3	0.7	1.5	0	0.0	0.0	4	1.0	2.0
Summit	1	0.1	0.4	4	0.6	1.5	0	0.0	0.0	5	0.7	1.8
Tooele	0	0.0	0.0	4	0.5	1.1	1	1.2	0.3	5	0.6	1.4
Uintah	0	0.0	0.0	7	2.4	2.8	0	0.0	0.0	7	2.4	2.8
Utah	3	0.1	0.1	98	2.9	2.8	4	1.2	0.1	105	3.1	3.0
Wasatch	0	0.0	0.0	4	1.5	2.8	0	0.0	0.0	4	1.5	2.8
Washingtc	1	0.1	0.1	17	1.8	2.0	1	1.0	0.1	19	2.0	2.2
Wayne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Weber	3	0.2	0.2	53	3.3	2.8	8	5.0	0.4	64	4.0	3.4
Statewide	32	0.1	0.1	664	2.7	3.1	27	1.1	0.1	723	3.0	3.3

Pedestrian Characteristics

Almost half (46.2%) of pedestrians involved in crashes were under 20 years of age (Table 3.14). This same age group accounted for 14.8% of the fatalities. While 5.5% of pedestrians involved in crashes were over the age of 65 years old, this age group accounted for 5.0% of injured pedestrians and 25.9% of the fatalities (Figure 3.07).

Figure 3.07 Age of Pedestrians, Utah 2002 (See Table 3.14 for values)



Note: The above graph is based on percentages for the different injury categories. To read the above graph, look at one category across the age groups. For example, look at only the white bars (i.e. injured pedestrians) from age group to age group. Do not compare the heights of the different categories for a specific age group.

Table 3.14 Age of Pedestrians, Utah 2002

Pedestrian Age	Non-Injured Pedestrians		Injured Pedestrians		Pedestrian Fatalities		Total Pedestrians	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
00-04	2	6.3%	45	6.8%	2	7.4%	49	6.8%
05-09	1	3.1%	66	9.9%	0	0.0%	67	9.3%
10-14	7	21.9%	100	15.1%	1	3.7%	108	14.9%
15-19	9	28.1%	100	15.1%	1	3.7%	110	15.2%
20-24	3	9.4%	58	8.7%	1	3.7%	62	8.6%
25-29	2	6.3%	45	6.8%	0	0.0%	47	6.5%
30-34	0	0.0%	30	4.5%	3	11.1%	33	4.6%
35-39	2	6.3%	29	4.4%	3	11.1%	34	4.7%
40-44	1	3.1%	41	6.2%	1	3.7%	43	5.9%
45-49	1	3.1%	37	5.6%	1	3.7%	39	5.4%
50-54	1	3.1%	25	3.8%	0	0.0%	26	3.6%
55-59	0	0.0%	20	3.0%	4	14.8%	24	3.3%
60-64	0	0.0%	17	2.6%	3	11.1%	20	2.8%
65-69	0	0.0%	8	1.2%	0	0.0%	8	1.1%
70-74	0	0.0%	13	2.0%	4	14.8%	17	2.4%
75-79	0	0.0%	5	0.8%	1	3.7%	6	0.8%
80-84	0	0.0%	3	0.5%	1	3.7%	4	0.6%
85+	0	0.0%	3	0.5%	1	3.7%	4	0.6%
Missing	3	9.4%	19	2.9%	0	0.0%	22	3.0%
Total	32	100.0%	664	100.0%	27	100.0%	723	100.0%

Table 3.15 shows the gender of pedestrians involved in crashes. Over half of the pedestrians involved in all three types of pedestrian crashes were male 58.2%. Almost three quarters (70.4%) of pedestrian crash fatalities were attributed to males.

Table 3.15 Gender of Pedestrians, Utah 2002

Pedestrian Gender	Non-Injured Pedestrians		Injured Pedestrians		Pedestrian Fatalities		Total Pedestrians	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	13	40.6%	274	41.3%	8	29.6%	295	40.8%
Male	17	53.1%	385	58.0%	19	70.4%	421	58.2%
Unknown	2	6.3%	5	0.8%	0	0.0%	7	1.0%
Total	32	100.0%	664	100.0%	27	100.0%	723	100.0%

The actions of the pedestrian prior to the crash are shown in Table 3.16. The leading pedestrian actions prior to the crash occurrence were "crossing the roadway at intersection" (with signal, no signal, against signal, diagonally) (42.8%), and "crossing the roadway not at an intersection" (19.5%). This information is taken directly from the citations issued by the police officers at the scene.

Table 3.16 Pedestrian Action Prior to Crash, Utah 2002

Pedestrian Action	Non-Injured Pedestrians		Injured Pedestrians		Pedestrian Fatalities		Total Pedestrians	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Crossing Intersection with Signal	7	22.6%	153	23.5%	3	11.1%	163	23.0%
Crossing Not at Intersection	2	6.5%	128	19.7%	8	29.6%	138	19.5%
Crossing Intersection No Signal	2	6.5%	93	14.3%	1	3.7%	96	13.6%
Other in Roadway	4	12.9%	42	6.5%	4	14.8%	50	7.1%
Crossing Intersection Against Signal	4	12.9%	35	5.4%	2	7.4%	41	5.8%
Not Stated	2	6.5%	38	5.8%	0	0.0%	40	5.6%
Other Standing in Roadway	1	3.2%	22	3.4%	4	14.8%	27	3.8%
Not in Roadway	0	0.0%	20	3.1%	2	7.4%	22	3.1%
Coming from Behind Parked Cars	0	0.0%	20	3.1%	1	3.7%	21	3.0%
Playing in Roadway	0	0.0%	20	3.1%	0	0.0%	20	2.8%
Other Working in Roadway	0	0.0%	18	2.8%	1	3.7%	19	2.7%
Walking on Sidewalk	0	0.0%	12	1.8%	0	0.0%	12	1.7%
Walking To and From School	2	6.5%	8	1.2%	0	0.0%	10	1.4%
Riding in Roadway With Traffic	3	9.7%	6	0.9%	1	3.7%	10	1.4%
Getting On or Off Other Vehicle	3	9.7%	6	0.9%	0	0.0%	9	1.3%
Pushing-Working on Veh in Roadway	1	3.2%	6	0.9%	0	0.0%	7	1.0%
Riding on Sidewalk	0	0.0%	6	0.9%	0	0.0%	6	0.8%
Hitching on Vehicle	0	0.0%	5	0.8%	0	0.0%	5	0.7%
Riding in Roadway Against Traffic	0	0.0%	4	0.6%	0	0.0%	4	0.6%
Lying on Roadway	0	0.0%	3	0.5%	0	0.0%	3	0.4%
Crossing Intersection Diagonally	0	0.0%	3	0.5%	0	0.0%	3	0.4%
Getting On or Off Bus	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Standing on Crosswalk Median Island	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Grand Total	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Missing	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	31	100.0%	650	100.0%	27	100.0%	708	100.0%

Alcohol and Other Drugs:

There were 2 pedestrian fatalities that involved drivers impaired by alcohol and other drugs.

Section 4

Bicyclist-Motor Vehicle Crashes, 2002

Bicyclist-Motor Vehicle Crashes 1993 - 2002	4.2
Bicyclist-Motor Vehicle Crash Severity	4.3
Bicyclist-Motor Vehicle Crashes by County	4.4
Bicyclist-Motor Vehicle Crash Times	4.6
Bicyclist-Motor Vehicle Crash Characteristics	4.9
Bicyclist-Motor Vehicle Crash Violations and Contributing Factors	4.10
Drivers Involved in Bicyclist-Motor Vehicle Crashes	4.12
Bicyclist Injury Severity	4.14
Bicyclists by County	4.15
Bicyclist Characteristics	4.16

TABLES

Table 4.01 Bicyclist-Motor Vehicle Crashes, Utah 1993 - 2002
Table 4.02 Bicyclist-Motor Vehicle Crashes by County, Utah 2002
Table 4.03 Bicyclist-Motor Vehicle Crashes by County, Utah 2000 - 2002
Table 4.04 Hour of Bicyclist-Motor Vehicle Crashes, Utah 2002
Table 4.05 Month of Bicyclist-Motor Vehicle Crashes, Utah 2002
Table 4.06 Day of Week for Bicyclist-Motor Vehicle , Utah 2002
Table 4.07 Urban/Rural Location of Bicyclist-Motor Vehicle Crashes, Utah 2002
Table 4.08 Type of Vehicles Involved in Bicyclist-Motor Vehicle Crashes, Utah 2002
Table 4.09 Violations for Bicyclist-Motor Vehicle Crashes, Utah 2002
Table 4.10 Contributing Factors of Bicyclist-Motor Vehicle Crashes, Utah 2002
Table 4.11 Age of Drivers Involved in Bicyclist-Motor Vehicle Crashes, Utah 2002
Table 4.12 Gender of Drivers Involved in Bicyclist-Motor Vehicle Crashes, Utah 2002
Table 4.13 Bicyclists by County, Utah 2002
Table 4.14 Age of Bicyclists, Utah 2002
Table 4.15 Gender of Bicyclists, Utah 2002
Table 4.16 Bicyclist Action Prior to Crash, Utah 2002

FIGURES

Figure 4.01 Bicyclist-Motor Vehicle Crashes, Utah 1993 - 2002
Figure 4.02 Severity of Bicyclist-Motor Vehicle Crashes as Reported by Police, Utah 2002
Figure 4.03 Hour of Bicyclist-Motor Vehicle Crashes, Utah 2002
Figure 4.04 Day of Week for Bicyclist-Motor Vehicle Crashes, Utah 2002
Figure 4.05 Age of Drivers Involved in Bicyclist-Motor Vehicle Crashes, Utah 2002
Figure 4.06 Bicyclist Injury Severity as Reported by Police, Utah 2002
Figure 4.07 Age of Bicyclists Involved in a Crash, Utah 2002

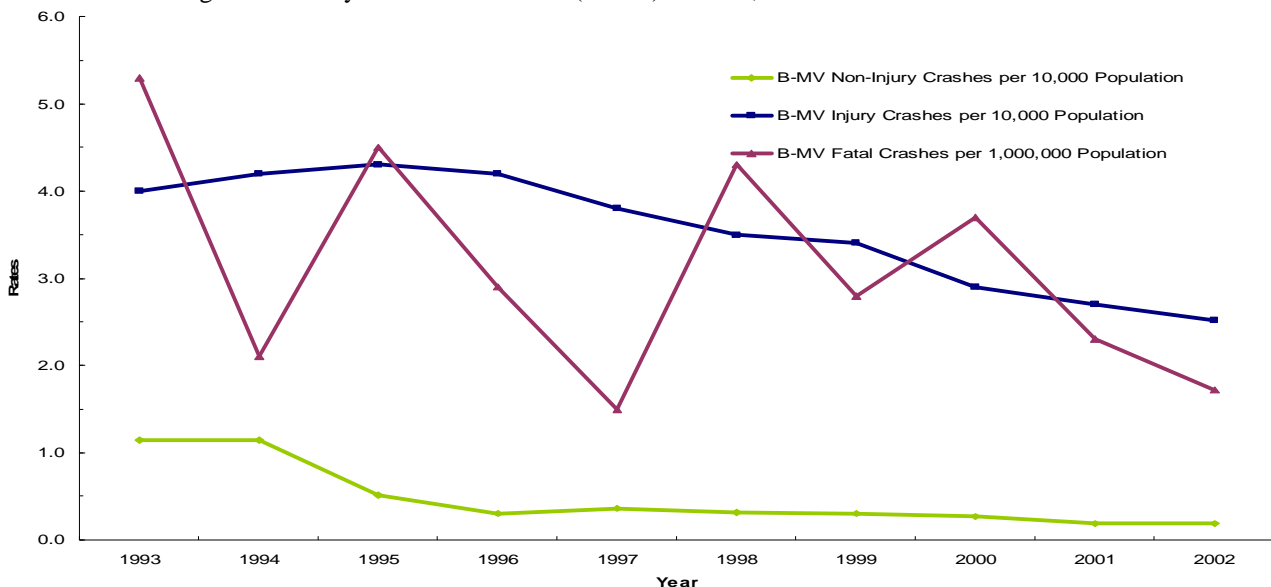
Bicyclist-Motor Vehicle Crashes 1993 - 2002

Table 4.01 and Figure 4.01 shows the trends in bicyclist-motor vehicle (B-MV) crashes for 1993 to 2002. The rates of total bicyclist-motor vehicle crashes and injury crashes have decreased steadily since 1994, while fatal crashes varied year to year. Part of the decrease in reported bicycle crashes from 1997 to 2002 is due to a change in reporting criteria initiated in 1997 that excluded private property crashes. As a result, bicycle crashes that occurred in a parking lot, driveway, sidewalk, and other private roadways would not be included from 1997 forward. Therefore, the years 1993-1996 cannot be compared with years 1997-2002. The small number of bicyclist-motor vehicle fatal crashes makes it difficult to compare increases and decreases from year to year.

Table 4.01 Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 1993 - 2002

Year	B-MV Non-Injury Crashes		B-MV Injury Crashes		B-MV Fatal Crashes		B-MV Total Crashes	
	Number	Rate per 10,000 Population	Number	Rate per 10,000 Population	Number	Rate per 1,000,000 Population	Number	Rate per 10,000 Population
1993	216	1.1	751	4.0	10	5.3	977	5.2
1994	224	1.2	819	4.2	4	2.1	1,047	5.4
1995	103	0.5	860	4.3	9	4.5	972	4.9
1996	61	0.3	858	4.2	6	2.9	925	4.5
1997	74	0.4	778	3.8	3	1.5	855	4.2
1998	67	0.3	728	3.5	9	4.3	804	3.8
1999	66	0.3	732	3.4	6	2.8	804	3.8
2000	58	0.3	625	2.9	8	3.7	691	3.2
2001	42	0.2	609	2.7	5	2.3	656	3.0
2002	44	0.2	585	2.5	4	1.7	633	2.7

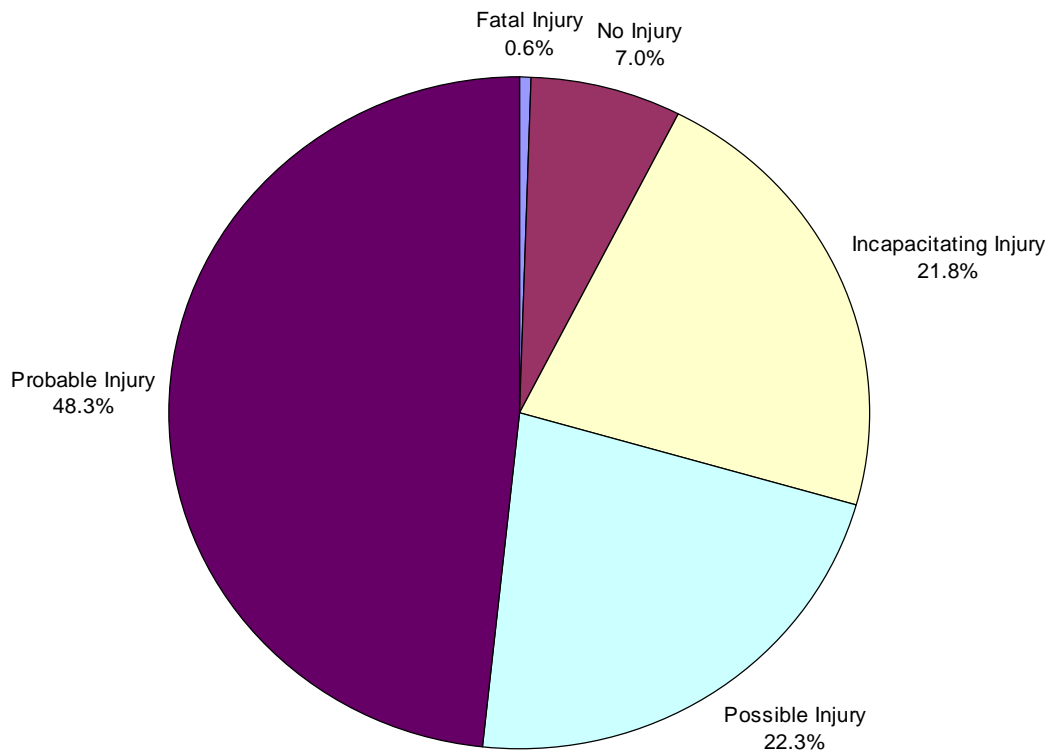
Figure 4.01 Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 1993 - 2002



Bicyclist-Motor Vehicle Crash Severity

Figure 4.02 shows the breakdown of bicyclist-motor vehicle crash severity. Almost all bicyclist-motor vehicle crashes resulted in an injury (93.0%) compared to 37.2% of all motor vehicle crashes (see Figure 1.03). However, bicyclist-motor vehicle crashes resulted in only a slightly larger percentage (0.6%) of fatal crashes compared to all motor vehicle crashes (0.5%).

Figure 4.02 Severity of Bicyclist-Motor Vehicle Crashes as Reported by Police, Utah 2002 (n=633)



Bicyclist-Motor Vehicle Crashes by County

The rates of total bicycle-involved motor vehicle crashes, injury crashes and fatal crashes by county are shown in Table 4.02. There are two different rates given; one based on the miles traveled by motor vehicles in the county, and another on the population of the county. The top three counties for total bicyclist-involved motor vehicle crashes based on miles traveled were Salt Lake, Utah, and Weber. The counties with bicyclist-involved motor vehicle fatal crashes were Beaver, Weber, and Salt Lake Counties.

Table 4.02 Bicyclist-Motor Vehicle (B-MV) Crashes by County, Utah 2002

County	B-MV Non-Injury Crashes			B-MV Injury Crashes			B-MV Fatal Crashes			B-MV Total Crashes		
	Number	Rate per 100 MVMT	Rate per 10,000 Population	Number	Rate per 100 MVMT	Rate per 10,000 Population	Number	Rate per 1000 MVMT	Rate per 10,000 Population	Number	Rate per 100 MVMT	Rate per 10,000 Population
Beaver	0	0.0	0.0	1	0.4	1.6	1	4.1	1.6	2	0.8	3.2
Box Elder	0	0.0	0.0	14	1.4	3.2	0	0.0	0.0	14	1.4	3.2
Cache	1	0.1	0.1	25	3.0	2.6	0	0.0	0.0	26	3.1	2.7
Carbon	1	0.3	0.5	3	0.9	1.5	0	0.0	0.0	4	1.2	2.0
Daggett	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Davis	4	0.2	0.2	46	2.0	1.8	0	0.0	0.0	50	2.2	2.0
Duchesne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Emery	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Garfield	0	0.0	0.0	1	0.7	2.1	0	0.0	0.0	1	0.7	2.1
Grand	0	0.0	0.0	2	0.7	2.4	0	0.0	0.0	2	0.7	2.4
Iron	0	0.0	0.0	5	0.8	1.4	0	0.0	0.0	5	0.8	1.4
Juab	0	0.0	0.0	2	0.5	2.3	0	0.0	0.0	2	0.5	2.3
Kane	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Millard	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Morgan	0	0.0	0.0	1	0.8	1.4	0	0.0	0.0	1	0.8	1.4
Piute	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Rich	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Salt Lake	20	0.3	0.2	289	3.6	3.1	1	0.1	0.0	310	3.9	3.4
San Juan	0	0.0	0.0	1	0.4	0.7	0	0.0	0.0	1	0.4	0.7
Sanpete	0	0.0	0.0	2	0.9	0.8	0	0.0	0.0	2	0.9	0.8
Sevier	0	0.0	0.0	4	1.0	2.1	0	0.0	0.0	4	1.0	2.1
Summit	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Tooele	1	0.1	0.2	2	0.2	0.4	0	0.0	0.0	3	0.4	0.7
Uintah	0	0.0	0.0	5	1.7	1.9	0	0.0	0.0	5	1.7	1.9
Utah	13	0.4	0.3	116	3.5	3.0	0	0.0	0.0	129	3.8	3.3
Wasatch	0	0.0	0.0	2	0.8	1.2	0	0.0	0.0	2	0.8	1.2
Washington	1	0.1	0.1	14	1.4	1.4	0	0.0	0.0	15	1.5	1.5
Wayne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Weber	3	0.2	0.2	50	3.1	2.5	2	1.3	0.1	55	3.5	2.8
Statewide	44	0.2	0.2	585	2.6	2.5	4	0.2	0.0	633	2.8	2.7

Table 4.03 compares the rates of bicyclist-motor vehicle crashes by county in 2001 to 2002. Most counties experienced only slight changes in total bicyclist-motor vehicle crashes and injury crashes from 2001 to 2002.

Table 4.03. Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2001 - 2002

County	B-MV Non-Injury Crashes				B-MV Injury Crashes				B-MV Fatal Crashes				B-MV Total Crashes			
	2001		2002		2001		2002		2001		2002		2001		2002	
	Number	Rate per 100 MVMT	Number	Rate per 100 MVMT	Number	Rate per 100 MVMT	Number	Rate per 100 MVMT	Number	Rate per 1000 MVMT	Number	Rate per 1000 MVMT	Number	Rate per 100 MVMT	Number	Rate per 100 MVMT
Beaver	0	0.0	0	0.0	1	0.4	1	0.4	0	0.0	1	4.1	1	0.4	2	0.8
Box Elder	0	0.0	0	0.0	6	0.6	14	1.4	0	0.0	0	0.0	6	0.6	14	1.4
Cache	1	0.1	1	0.1	23	2.9	25	3.0	0	0.0	0	0.0	24	3.0	26	3.1
Carbon	0	0.0	1	0.3	4	1.2	3	0.9	0	0.0	0	0.0	4	1.2	4	1.2
Daggett	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Davis	5	0.2	4	0.2	48	2.2	46	2.0	0	0.0	0	0.0	53	2.4	50	2.2
Duchesne	0	0.0	0	0.0	1	0.5	0	0.0	0	0.0	0	0.0	1	0.5	0	0.0
Emery	0	0.0	0	0.0	2	0.6	0	0.0	0	0.0	0	0.0	2	0.6	0	0.0
Garfield	0	0.0	0	0.0	0	0.0	1	0.7	0	0.0	0	0.0	0	0.0	1	0.7
Grand	0	0.0	0	0.0	7	2.5	2	0.7	0	0.0	0	0.0	7	2.5	2	0.7
Iron	0	0.0	0	0.0	7	1.2	5	0.8	0	0.0	0	0.0	7	1.2	5	0.8
Juab	0	0.0	0	0.0	1	0.3	2	0.5	0	0.0	0	0.0	1	0.3	2	0.5
Kane	0	0.0	0	0.0	3	2.4	0	0.0	0	0.0	0	0.0	3	2.4	0	0.0
Millard	0	0.0	0	0.0	1	0.2	0	0.0	1	2.4	0	0.0	2	0.5	0	0.0
Morgan	0	0.0	0	0.0	0	0.0	1	0.8	1	8.3	0	0.0	1	0.8	1	0.8
Piute	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Rich	0	0.0	0	0.0	2	4.6	0	0.0	0	0.0	0	0.0	2	4.6	0	0.0
Salt Lake	25	0.3	20	0.3	288	3.7	289	3.6	2	0.3	1	0.1	315	4.1	310	3.9
San Juan	0	0.0	0	0.0	2	0.7	1	0.4	0	0.0	0	0.0	2	0.7	1	0.4
Sanpete	0	0.0	0	0.0	2	0.9	2	0.9	0	0.0	0	0.0	2	0.9	2	0.9
Sevier	0	0.0	0	0.0	2	0.5	4	1.0	0	0.0	0	0.0	2	0.5	4	1.0
Summit	0	0.0	0	0.0	6	0.9	0	0.0	0	0.0	0	0.0	6	0.9	0	0.0
Tooele	1	0.1	1	0.1	3	0.4	2	0.2	0	0.0	0	0.0	4	0.5	3	0.4
Uintah	0	0.0	0	0.0	2	0.7	5	1.7	0	0.0	0	0.0	2	0.7	5	1.7
Utah	4	0.1	13	0.4	121	3.8	116	3.5	0	0.0	0	0.0	125	4.0	129	3.8
Wasatch	0	0.0	0	0.0	8	3.1	2	0.8	0	0.0	0	0.0	8	3.1	2	0.8
Washington	2	0.2	1	0.1	11	1.2	14	1.4	0	0.0	0	0.0	13	1.4	15	1.5
Wayne	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Weber	4	0.3	3	0.2	58	3.8	50	3.1	1	0.7	2	1.3	63	4.2	55	3.5
Statewide	42	0.2	44	0.2	609	2.6	585	2.6	5	0.2	4	0.2	656	2.8	633	2.8

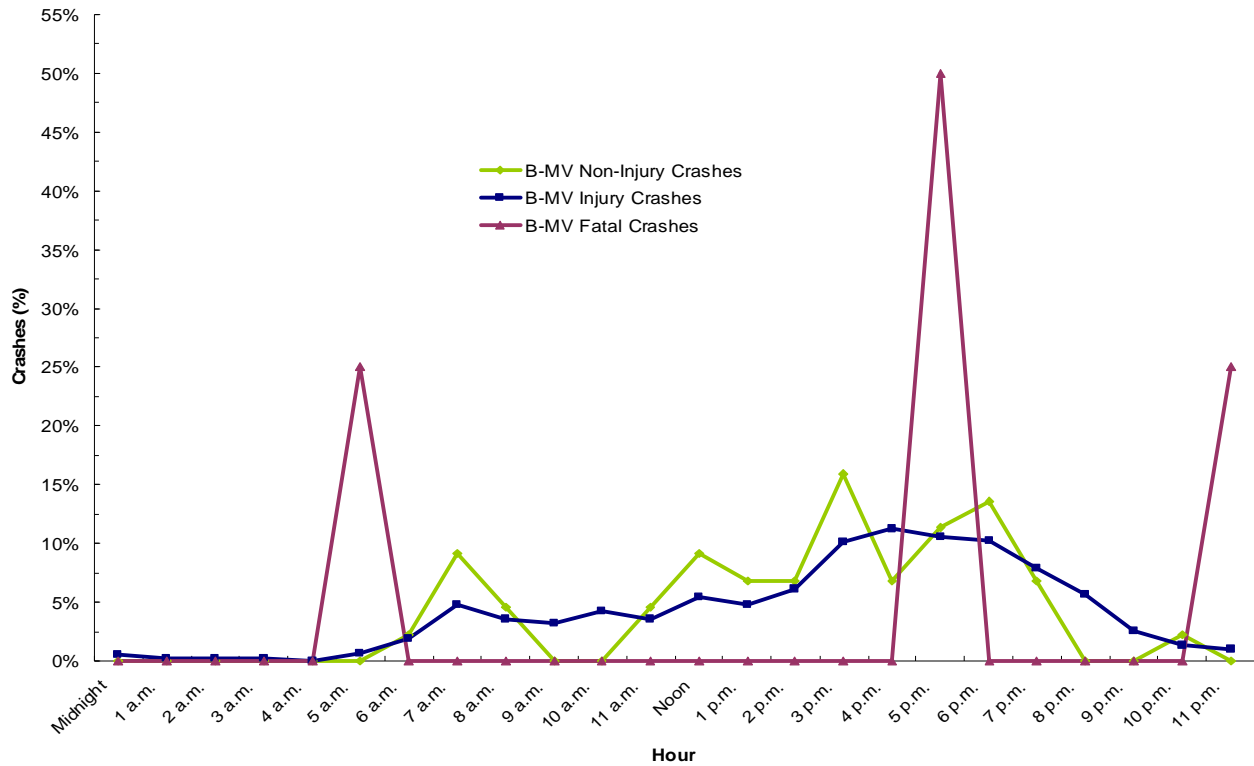
Bicyclist-Motor Vehicle Crash Times

Table 4.04 and Figure 4.03 show that total bicyclist-motor vehicle crashes and injury crashes peaked during the late afternoon and early evening hours (3 p.m. to 6 p.m.).

Table 4.04 Hour of Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002

Hour	B-MV Non-Injury Crashes		B-MV Injury Crashes		B-MV Fatal Crashes		B-MV Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Midnight	0	0.0%	3	0.5%	0	0.0%	3	0.5%
1 a.m.	0	0.0%	1	0.2%	0	0.0%	1	0.2%
2 a.m.	0	0.0%	1	0.2%	0	0.0%	1	0.2%
3 a.m.	0	0.0%	1	0.2%	0	0.0%	1	0.2%
4 a.m.	0	0.0%	0	0.0%	0	0.0%	0	0.0%
5 a.m.	0	0.0%	4	0.7%	1	25.0%	5	0.8%
6 a.m.	1	2.3%	11	1.9%	0	0.0%	12	1.9%
7 a.m.	4	9.1%	28	4.8%	0	0.0%	32	5.1%
8 a.m.	2	4.5%	21	3.6%	0	0.0%	23	3.6%
9 a.m.	0	0.0%	19	3.2%	0	0.0%	19	3.0%
10 a.m.	0	0.0%	25	4.3%	0	0.0%	25	3.9%
11 a.m.	2	4.5%	21	3.6%	0	0.0%	23	3.6%
Noon	4	9.1%	32	5.5%	0	0.0%	36	5.7%
1 p.m.	3	6.8%	28	4.8%	0	0.0%	31	4.9%
2 p.m.	3	6.8%	36	6.2%	0	0.0%	39	6.2%
3 p.m.	7	15.9%	59	10.1%	0	0.0%	66	10.4%
4 p.m.	3	6.8%	66	11.3%	0	0.0%	69	10.9%
5 p.m.	5	11.4%	62	10.6%	2	50.0%	69	10.9%
6 p.m.	6	13.6%	60	10.3%	0	0.0%	66	10.4%
7 p.m.	3	6.8%	46	7.9%	0	0.0%	49	7.7%
8 p.m.	0	0.0%	33	5.6%	0	0.0%	33	5.2%
9 p.m.	0	0.0%	15	2.6%	0	0.0%	15	2.4%
10 p.m.	1	2.3%	8	1.4%	0	0.0%	9	1.4%
11 p.m.	0	0.0%	6	1.0%	1	25.0%	7	1.1%
Grand Total	44	100.0%	585	100.0%	4	100.0%	633	100.0%

Figure 4.03 Hour of Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002 (See Table 4.04 for values)



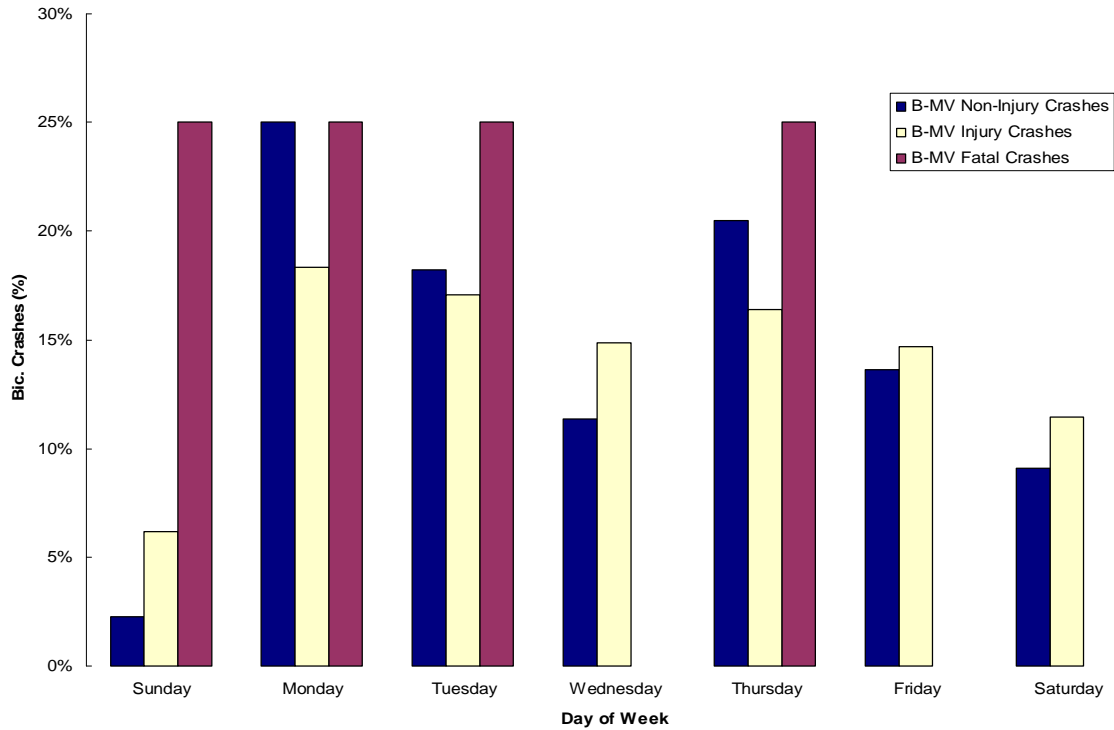
May through September had the highest rates of total bicyclist-motor vehicle crashes and injury crashes per day (Table 4.05).

Table 4.05 Month of Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002

Crash Month	B-MV Non-Injury Crashes		B-MV Injury Crashes		B-MV Fatal Crashes		B-MV Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
January	1	2.3%	12	2.1%	1	25.0%	14	2.2%
February	2	4.5%	15	2.6%	0	0.0%	17	2.7%
March	3	6.8%	37	6.3%	0	0.0%	40	6.3%
April	5	11.4%	54	9.2%	0	0.0%	59	9.3%
May	4	9.1%	65	11.1%	1	25.0%	70	11.1%
June	6	13.6%	77	13.2%	0	0.0%	83	13.1%
July	5	11.4%	74	12.6%	1	25.0%	80	12.6%
August	7	15.9%	95	16.2%	0	0.0%	102	16.1%
September	3	6.8%	73	12.5%	0	0.0%	76	12.0%
October	6	13.6%	39	6.7%	0	0.0%	45	7.1%
November	1	2.3%	22	3.8%	0	0.0%	23	3.6%
December	1	2.3%	22	3.8%	1	25.0%	24	3.8%
Total	44	100.0%	585	100.0%	4	100.0%	633	100.0%

Figure 4.04 and Table 4.06 show that the highest percentage of total bicyclist-motor vehicle crashes and injury crashes occurred on Monday, while the lowest number occurred on Sunday.

Figure 4.04 Day of Week for Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002



Note: The above graph is based on percentages for the different crash categories. To read the above graph, look at one category across the days of the week. For example, look at only the white bars (i.e. bicyclist-motor vehicle injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 4.06 Day of Week for Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002

Day of Week	B-MV Non-Injury Crashes		B-MV Injury Crashes		B-MV Fatal Crashes		B-MV Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Sunday	1	2.3%	36	6.2%	1	25.0%	38	6.0%
Monday	11	25.0%	107	18.3%	1	25.0%	119	18.8%
Tuesday	8	18.2%	100	17.1%	1	25.0%	109	17.2%
Wednesday	5	11.4%	87	14.9%	0	0.0%	92	14.5%
Thursday	9	20.5%	96	16.4%	1	25.0%	106	16.7%
Friday	6	13.6%	86	14.7%	0	0.0%	92	14.5%
Saturday	4	9.1%	67	11.5%	0	0.0%	71	11.2%
Missing	0	0.0%	6	1.0%	0	0.0%	6	0.9%
Total	44	100.0%	585	100.0%	4	100.0%	633	100.0%

Bicyclist-Motor Vehicle Crash Characteristics

Large urban areas accounted for three-quarters (80.6%) of the total bicyclist-motor vehicle crashes and 75.0% of the fatal bicycle-motor vehicle crashes (Table 4.07).

Table 4.07 Urban / Rural Location of Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002

Urban / Rural Location	B-MV Non-Injury Crashes		B-MV Injury Crashes		B-MV Fatal Crashes		B-MV Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Rural Area - Up to 5,000	3	6.8%	78	13.3%	1	25.0%	82	13.0%
Small Urban 5,000-49,999	2	4.5%	33	5.6%	0	0.0%	35	5.5%
Urban 50,000-199,999	1	2.3%	19	3.2%	0	0.0%	20	3.2%
Urban 200,000 or More	38	86.4%	449	76.8%	3	75.0%	490	77.4%
Missing	0	0.0%	6	1.0%	0	0.0%	6	0.9%
Total	44	100.0%	585	100.0%	4	100.0%	633	100.0%

Table 4.08 shows the type of vehicles involved in bicyclist-motor vehicle crashes. Over half (58.8%) of the vehicles involved in the total bicyclist-motor vehicle crashes were passenger cars.

Table 4.08 Type of Vehicles Involved in Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002

Vehicle Type	B-MV Non-Injury Crashes		B-MV Injury Crashes		B-MV Fatal Crashes		B-MV Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Large/ Semi Truck	1	2.3%	3	0.5%	1	25.0%	5	0.8%
Light Truck, Van or SUV	15	34.1%	216	36.6%	2	50.0%	233	36.5%
Motorcycle	0	0.0%	5	0.8%	0	0.0%	5	0.8%
Other	1	2.3%	17	2.9%	0	0.0%	18	2.8%
Passenger Car	27	61.4%	347	58.8%	1	25.0%	375	58.8%
School Bus	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Grand Total	44	100.0%	590	100.0%	4	100.0%	638	100.0%

Note: More than one vehicle may be involved in a bicyclist-motor vehicle crash. Unknown vehicles are 'hit and run' vehicles.

Bicyclist-Motor Vehicle Crash Violations and Contributing Factors

There were 634 drivers involved in bicyclist-motor vehicle crashes, of which 194 (30.6%) were cited for a traffic violation (Table 4.09). The leading violation was "failure to yield right of way" (46.4%). No drivers involved in fatal bicyclist-motor vehicle crashes received a citation at the scene.

Table 4.09 Violations for Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002

Violations	B-MV Non-Injury Crashes		B-MV Injury Crashes		B-MV Total Crashes	
	Number	Percent	Number	Percent	Number	Percent
Failure to Yield Right of Way	5	50.0%	85	46.2%	90	46.4%
Improper Lookout	2	20.0%	34	18.5%	36	18.6%
Other Non-Moving Violations	1	10.0%	26	14.1%	27	13.9%
Red Light	0	0.0%	8	4.3%	8	4.1%
Negligent Collision	0	0.0%	7	3.8%	7	3.6%
Hit and Run	1	10.0%	5	2.7%	6	3.1%
Improper Turn	0	0.0%	5	2.7%	5	2.6%
Wrong Side of Road	0	0.0%	4	2.2%	4	2.1%
Stop Sign	0	0.0%	3	1.6%	3	1.5%
All Other Moving Violations	1	10.0%	1	0.5%	2	1.0%
Driving Under the Influence	0	0.0%	2	1.1%	2	1.0%
Speeding	0	0.0%	2	1.1%	2	1.0%
Improper Backing	0	0.0%	1	0.5%	1	0.5%
Improper Passing	0	0.0%	1	0.5%	1	0.5%
Total	10	100.0%	184	100.0%	194	100.0%

The factors contributing to bicycle-motor vehicle crashes are listed in Table 4.10. These factors were coded by the officers at the scene for motor vehicles involved in the crash. The officer may record up to two different contributing factors. The primary contributing factors recorded for total bicyclist-motor vehicle crashes and injury crashes were "improper lookout" and "failure to yield right of way." "Driving under the influence," "had been drinking," and "under the influence of drugs" accounted for 3.0% of contributing factors in total bicyclist-motor vehicle crashes and injury crashes.

Table 4.10 Contributing Factors of Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002

Contributing Factors	B-MV Non-Injury Crashes		B-MV Injury Crashes		B-MV Fatal Crashes		B-MV Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Improper Lookout	13	28.9%	168	25.5%	0	0.0%	181	25.6%
Failed to Yield the Right of Way	11	24.4%	96	14.5%	0	0.0%	107	15.1%
Following Too Closely	4	8.9%	81	12.3%	0	0.0%	85	12.0%
Other Improper Driving	3	6.7%	62	9.4%	1	50.0%	66	9.3%
Speed Too Fast	0	0.0%	61	9.2%	1	50.0%	62	8.8%
Hit and Run	2	4.4%	26	3.9%	0	0.0%	28	4.0%
Improper Turn	1	2.2%	26	3.9%	0	0.0%	27	3.8%
Disregarded Traffic Signal	4	8.9%	18	2.7%	0	0.0%	22	3.1%
Asleep	3	6.7%	12	1.8%	0	0.0%	15	2.1%
Driving Under the Influence	0	0.0%	15	2.3%	0	0.0%	15	2.1%
Improper Backing	1	2.2%	12	1.8%	0	0.0%	13	1.8%
Non-Contact Vehicle Involved	0	0.0%	11	1.7%	0	0.0%	11	1.6%
Drove Left of Center	0	0.0%	10	1.5%	0	0.0%	10	1.4%
Improper Overtaking	0	0.0%	9	1.4%	0	0.0%	9	1.3%
Fatigued	2	4.4%	6	0.9%	0	0.0%	8	1.1%
Other Defective Condition	0	0.0%	8	1.2%	0	0.0%	8	1.1%
Cargo Loss or Shift	0	0.0%	4	0.6%	0	0.0%	4	0.6%
Had Been Drinking	0	0.0%	4	0.6%	0	0.0%	4	0.6%
Down Hill Runaway	0	0.0%	4	0.6%	0	0.0%	4	0.6%
Passed Stop Sign	0	0.0%	4	0.6%	0	0.0%	4	0.6%
Wrong Side of Road	0	0.0%	3	0.5%	0	0.0%	3	0.4%
Tires Defective	1	2.2%	2	0.3%	0	0.0%	3	0.4%
Other Defective Condition	0	0.0%	8	1.2%	0	0.0%	8	1.1%
Fatigued	2	4.4%	6	0.9%	0	0.0%	8	1.1%
Stolen	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Towed Vehicle	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Down Hill Runaway	0	0.0%	4	0.6%	0	0.0%	4	0.6%
Improper Backing	1	2.2%	12	1.8%	0	0.0%	13	1.8%
Headlights Glaring	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Jackknife	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Sick or ill	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Improper Parking	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Cargo Loss or Shift	0	0.0%	4	0.6%	0	0.0%	4	0.6%
Non-collision fire	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Separation of Units	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Total	45	100.0%	660	100.0%	2	100.0%	707	100.0%

Drivers Involved in Bicyclist-Motor Vehicle Crashes

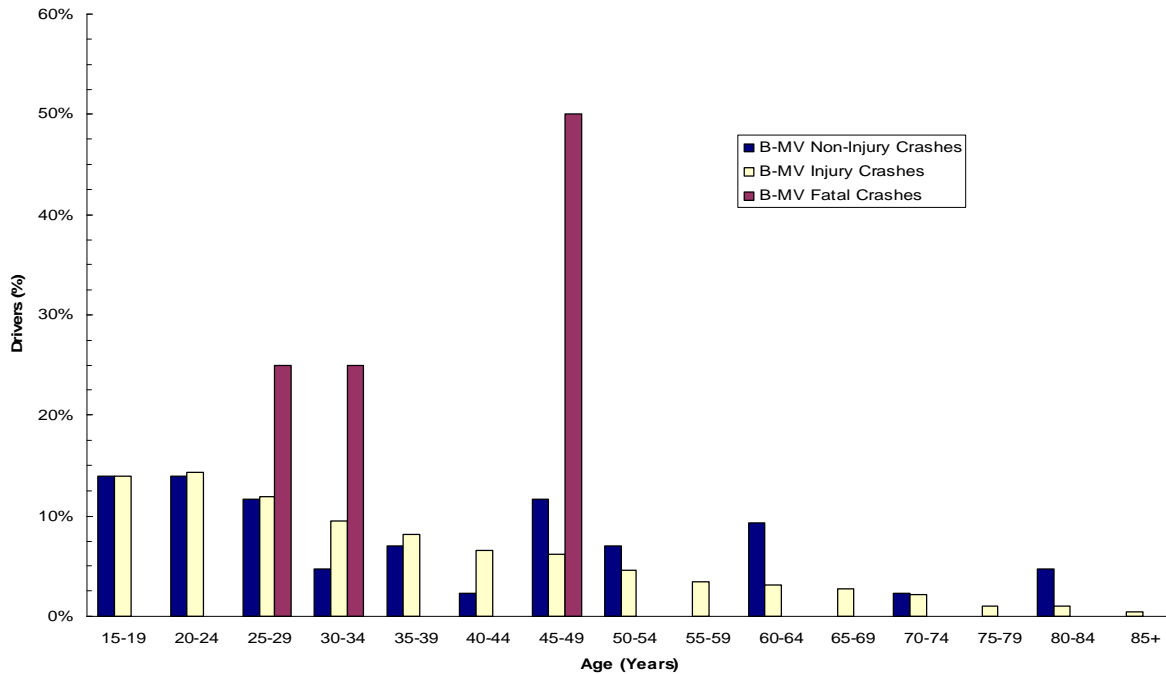
Drivers between the ages of 15 to 24 years represented the greatest percentage of motor vehicle drivers (28.1%) involved in a total bicyclist-motor vehicle crash, while drivers aged 45 to 49 years each accounted for 50.0% of drivers involved in fatal bicyclist-motor vehicle crashes (Table 4.11 and Figure 4.05).

Table 4.11 Age of Drivers Involved in Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002

Driver's Age	B-MV Non-Injury Crashes		B-MV Injury Crashes		B-MV Fatal Crashes		B-MV Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
15-19	6	14.0%	82	14.0%	0	0.0%	88	13.9%
20-24	6	14.0%	84	14.3%	0	0.0%	90	14.2%
25-29	5	11.6%	70	11.9%	1	25.0%	76	12.0%
30-34	2	4.7%	56	9.5%	1	25.0%	59	9.3%
35-39	3	7.0%	48	8.2%	0	0.0%	51	8.0%
40-44	1	2.3%	38	6.5%	0	0.0%	39	6.2%
45-49	5	11.6%	36	6.1%	2	50.0%	43	6.8%
50-54	3	7.0%	27	4.6%	0	0.0%	30	4.7%
55-59	0	0.0%	20	3.4%	0	0.0%	20	3.2%
60-64	4	9.3%	18	3.1%	0	0.0%	22	3.5%
65-69	0	0.0%	16	2.7%	0	0.0%	16	2.5%
70-74	1	2.3%	13	2.2%	0	0.0%	14	2.2%
75-79	0	0.0%	6	1.0%	0	0.0%	6	0.9%
80-84	2	4.7%	6	1.0%	0	0.0%	8	1.3%
85+	0	0.0%	3	0.5%	0	0.0%	3	0.5%
Missing	5	11.6%	64	10.9%	0	0.0%	69	10.9%
Total	43	100.0%	587	100.0%	4	100.0%	634	100.0%

Note: More than one driver may be involved in bicyclist-motor vehicle crashes and driver information may be missing (e.g. a hit and run).

Figure 4.05 Age of Drivers Involved in Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002
(See Table 4.11 for values)



Note: The above graph is based on percentage for the different crash categories. To read the above graph, look at one category across the age groups. For example, look at only the white bars (i.e. drivers in bicyclist-motor vehicle injury crashes) from age group to age group. Do not compare the heights of the different crash categories for a specific age group.

Table 4.12 shows that over half (55%) of motor vehicle drivers involved in total bicycle-motor vehicle crashes, and injury bicycle-motor vehicle crashes were male.

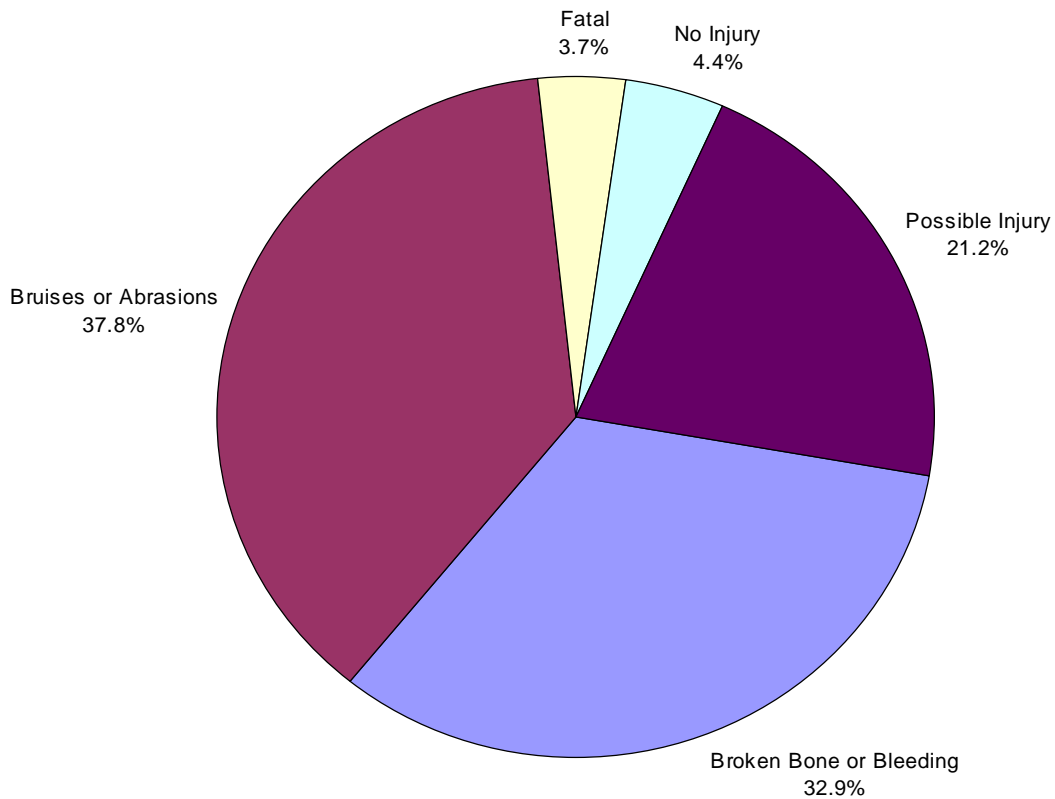
Table 4.12 Gender of Drivers Involved in Bicyclist-Motor Vehicle (B-MV) Crashes, Utah 2002

MV Driver's Gender	B-MV Non-Injury Crashes		B-MV Injury Crashes		B-MV Fatal Crashes		B-MV Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	18	41.9%	230	39.2%	0	0.0%	248	39.1%
Male	24	55.8%	323	55.0%	4	100.0%	351	55.4%
Unknown	1	2.3%	34	5.8%	0	0.0%	35	5.5%
Total	43	100.0%	587	100.0%	4	100.0%	634	100.0%

Bicyclist Injury Severity

Figure 4.06 shows that the majority of bicyclists sustained an injury (95.6%) compared to 21.9% of all motor vehicle crash participants (Figure 2.03). The percentage of bicyclist fatalities (3.7%) was higher than for all motor vehicle crash participants (0.2%). There were 4 bicyclists killed on Utah public roadways in 2002, compared to 5 bicyclists killed during 2001.

Figure 4.06 Bicyclist Injury Severity as Reported by Police, Utah 2002 (n=633)



Bicyclists by County

Table 4.13 shows the number of bicyclists, injured bicyclists and bicyclist fatalities involved in motor vehicle crashes by county. The leading counties for total bicyclists and injured bicyclists involved in a motor vehicle crash per million vehicle miles traveled were Salt Lake, Utah, and Weber Counties.

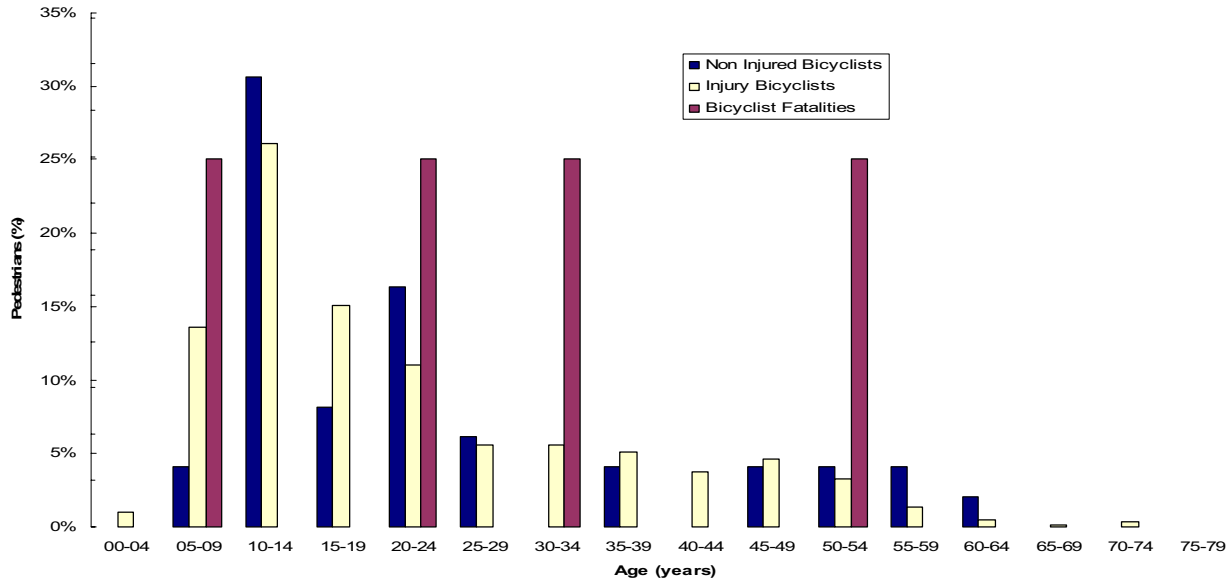
Table 4.13 Total Bicyclists, Injured Bicyclists and Bicyclist Fatalities by County, Utah 2002

County	Non-Injured Bicyclists			Injured Bicyclists			Bicyclist Fatalities			Total Bicyclists		
	Number	Rate per 100 MVMT	Rate per 10,000 Population	Number	Rate per 100 MVMT	Rate per 10,000 Population	Number	Rate per 1000 MVMT	Rate per 10,000 Population	Number	Rate per 100 MVMT	Rate per 10,000 Population
Beaver	0	0.0	0.0	1	0.4	1.6	1	4.1	1.6	2	0.8	3.2
Box Elder	0	0.0	0.0	14	1.4	3.2	0	0.0	0.0	14	1.4	3.2
Cache	1	0.1	0.1	23	2.8	2.4	0	0.0	0.0	24	2.9	2.5
Carbon	1	0.3	0.5	3	0.9	1.5	0	0.0	0.0	4	1.2	2.0
Daggett	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Davis	4	0.2	0.2	47	2.0	1.9	0	0.0	0.0	51	2.2	2.0
Duchesne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Emery	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Garfield	0	0.0	0.0	1	0.7	2.1	0	0.0	0.0	1	0.7	2.1
Grand	0	0.0	0.0	2	0.7	2.4	0	0.0	0.0	2	0.7	2.4
Iron	0	0.0	0.0	5	0.8	1.4	0	0.0	0.0	5	0.8	1.4
Juab	0	0.0	0.0	2	0.5	2.3	0	0.0	0.0	2	0.5	2.3
Kane	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Millard	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Morgan	0	0.0	0.0	1	0.8	1.4	0	0.0	0.0	1	0.8	1.4
Piute	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Rich	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Salt Lake	24	0.3	0.3	291	3.6	3.1	1	0.1	0.0	316	4.0	3.4
San Juan	0	0.0	0.0	3	1.1	2.1	0	0.0	0.0	3	1.1	2.1
Sanpete	0	0.0	0.0	2	0.9	0.8	0	0.0	0.0	2	0.9	0.8
Sevier	0	0.0	0.0	4	1.0	2.1	0	0.0	0.0	4	1.0	2.1
Summit	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Tooele	1	0.1	0.2	2	0.2	0.4	0	0.0	0.0	3	0.4	0.7
Uintah	0	0.0	0.0	5	1.7	1.9	0	0.0	0.0	5	1.7	1.9
Utah	14	0.4	0.4	119	3.6	3.0	0	0.0	0.0	133	4.0	3.4
Wasatch	0	0.0	0.0	3	1.1	1.8	0	0.0	0.0	3	1.1	1.8
Washington	1	0.1	0.1	12	1.2	1.2	0	0.0	0.0	13	1.3	1.3
Wayne	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
Weber	4	0.3	0.2	50	3.1	2.5	2	1.3	0.1	56	3.5	2.8
Statewide	50	0.2	0.2	590	2.6	2.5	4	0.2	0.0	644	2.8	2.8

Bicyclist Characteristics

Figure 4.07 and Table 4.14 show that the majority of total bicyclists (65%) and injured bicyclists (65.8%) involved in a crash were between the ages of 5 to 24 years. Half (50%) of the fatalities were in this age group.

Figure 4.07 Age of Bicyclists Fatalities Involved in a Crash, Utah 2002



Note: The above graph is based on percentages for the different injury categories. To read the above graph, look at one category across the age groups. For example, look at only the white bars (i.e. injured bicyclist) from age group to age group. Do not compare the heights of the different injury categories for a specific age group.

Table 4.14 Age of Bicyclists, Utah 2002

Age	Non-Injured Bicyclists		Injured Bicyclists		Bicyclist Fatalities		Total Bicyclists	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
00-04	0	0.0%	6	1.0%	0	0.0%	6	0.9%
05-09	2	4.1%	80	13.6%	1	25.0%	83	12.9%
10-14	15	30.6%	154	26.1%	0	0.0%	169	26.3%
15-19	4	8.2%	89	15.1%	0	0.0%	93	14.5%
20-24	8	16.3%	65	11.0%	1	25.0%	74	11.5%
25-29	3	6.1%	33	5.6%	0	0.0%	36	5.6%
30-34	0	0.0%	33	5.6%	1	25.0%	34	5.3%
35-39	2	4.1%	30	5.1%	0	0.0%	32	5.0%
40-44	0	0.0%	22	3.7%	0	0.0%	22	3.4%
45-49	2	4.1%	27	4.6%	0	0.0%	29	4.5%
50-54	2	4.1%	19	3.2%	1	25.0%	22	3.4%
55-59	2	4.1%	8	1.4%	0	0.0%	10	1.6%
60-64	1	2.0%	3	0.5%	0	0.0%	4	0.6%
65-69	0	0.0%	1	0.2%	0	0.0%	1	0.2%
70-74	0	0.0%	2	0.3%	0	0.0%	2	0.3%
75-79	0	0.0%	0	0.0%	0	0.0%	0	0.0%
80-84	0	0.0%	1	0.2%	0	0.0%	1	0.2%
85+	0	0.0%	0	0.0%	0	0.0%	0	0.0%

The majority of the total bicyclists (80.3%) and injured bicyclists (80.7%) involved in crashes were male (Table 4.15).

Table 4.15 Gender of Bicyclists, Utah 2002

Bicyclist Gender	Non-Injured Bicyclists		Injured Bicyclists		Bicyclist Fatalities		Total Bicyclists	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	8	16.0%	114	19.3%	2	50.0%	124	19.3%
Male	39	78.0%	476	80.7%	2	50.0%	517	80.3%
Missing	3	6.0%	0	0.0%	0	0.0%	3	0.5%
Total	50	100.0%	590	100.0%	4	100.0%	644	100.0%

The actions of the bicyclist prior to the crash are shown in Table 4.16. The leading total bicyclists and injured bicyclists actions prior to the crash were “riding in roadway with traffic” and “riding in roadway against traffic”. The leading bicyclist action prior to crash for the bicyclists who died were “riding in roadway with traffic” and “crossing intersection against signal.”

Table 4.16 Bicyclist Action Prior to Crash, Utah 2002

Bicyclist Action	Non-Injured Bicyclists		Injured Bicyclists		Bicyclist Fatalities		Total Bicyclists	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Riding in Roadway With Traffic	11	22.0%	112	19.0%	2	50.0%	125	19.4%
Riding in Roadway Against Traffic	9	18.0%	87	14.7%	0	0.0%	96	14.9%
Crossing Intersection with Signal	8	16.0%	86	14.6%	0	0.0%	94	14.6%
Riding on Sidewalk	9	18.0%	67	11.4%	0	0.0%	76	11.8%
Crossing Intersection No Signal	2	4.0%	69	11.7%	0	0.0%	71	11.0%
Crossing Intersection Against Signal	4	8.0%	52	8.8%	2	50.0%	58	9.0%
Crossing Not at Intersection	4	8.0%	48	8.1%	0	0.0%	52	8.1%
Not Stated	2	4.0%	21	3.6%	0	0.0%	23	3.6%
Other in Roadway	1	2.0%	18	3.1%	0	0.0%	19	3.0%
Coming from Behind Parked Cars	0	0.0%	10	1.7%	0	0.0%	10	1.6%
Crossing Intersection Diagonally	0	0.0%	4	0.7%	0	0.0%	4	0.6%
Not in Roadway	0	0.0%	2	0.3%	0	0.0%	2	0.3%
Walking To and From School	0	0.0%	1	0.2%	0	0.0%	1	0.2%
Walking on Sidewalk	0	0.0%	1	0.2%	0	0.0%	1	0.2%
Walking in Roadway Against Traffic	0	0.0%	1	0.2%	0	0.0%	1	0.2%
Standing on Crosswalk Median Island	0	0.0%	1	0.2%	0	0.0%	1	0.2%
(blank)	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Lying on Roadway	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Getting On or Off Other Vehicle	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Getting On or Off Bus	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Pushing-Working on Veh in Roadway	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Walking in Roadway with Traffic	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Hitching on Vehicle	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other Working in Roadway	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Missing	0	0.0%	10	1.7%	0	0.0%	10	1.6%
Total	50	100.0%	590	100.0%	4	100.0%	644	100.0%

Alcohol and Other Drugs:

None of the fatal bicycle-motor vehicle crashes involved alcohol or other drugs.

Bicyclists and Helmet

Helmet was not coded consistently at the time-of-crash for bicyclists and cannot be reported with accuracy. As a result, it is not included in this summary.

Section 5

Motorcycle Total Crashes, Injury Crashes and Fatal Crashes, 2002

Motorcycle Crashes 1993 - 2002.....	5.2
Motorcycle Crash Severity	5.3
Motorcycle Crashes by County	5.4
Motorcycle Crash Times	5.5
Motorcycle Crash Characteristics	5.8
Motorcycle Crash Violations and Contributing Factors.....	5.10
Motorcycle Drivers Involved in Crashes	5.12
Motorcyclist Injury Severity	5.14
Motorcyclists by County.....	5.15
Motorcyclist Characteristics	5.16

TABLES

Table 5.01 Motorcycle Crashes, Utah 1993 - 2002
Table 5.02 Motorcycle Crashes by County, Utah 2002
Table 5.03 Hour of Motorcycle Crashes, Utah 2002
Table 5.04 Month of Motorcycle Crashes, Utah 2002
Table 5.05 Day of Week for Motorcycle Crashes, Utah 2002
Table 5.06 Types of Crashes Involving Motorcycles, Utah 2002
Table 5.07 Urban/Rural Location of Motorcycle Crashes, Utah 2002
Table 5.08 Collision Description of Motorcycle Crashes, Utah 2002
Table 5.09 Violations for Motorcycle Crashes, Utah 2002
Table 5.10 Contributing Factors of Motorcycle Crashes, Utah 2002
Table 5.11 Age of Motorcycle Driver Involved in Crashes, Utah 2002
Table 5.12 Gender of Motorcycle Drivers Involved in Crashes, Utah 2002
Table 5.13 Motorcyclists by County, Utah 2002
Table 5.14 Age of Motorcyclists, Utah 2002
Table 5.15 Gender of Motorcyclists, Utah 2002
Table 5.16 Crash Placement of Motorcyclists, Utah 2002
Table 5.17 Helmet Use by Motorcyclists Involved in Crashes, Utah 2002

FIGURES

Figure 5.01 Motorcycle Crashes, Utah 1993 - 2002
Figure 5.02 Severity of Motorcycle Crashes as Reported by Police, Utah 2002
Figure 5.03 Hour of Motorcycle Crashes, Utah 2002
Figure 5.04 Day of Week for Motorcycle Crashes, Utah 2002
Figure 5.05 Age of Motorcycle Drivers Involved in Crashes, Utah 2002
Figure 5.06 Motorcyclist Injury Severity as Reported by Police, Utah 2002
Figure 5.07 Age of Motorcyclists, Utah 2002

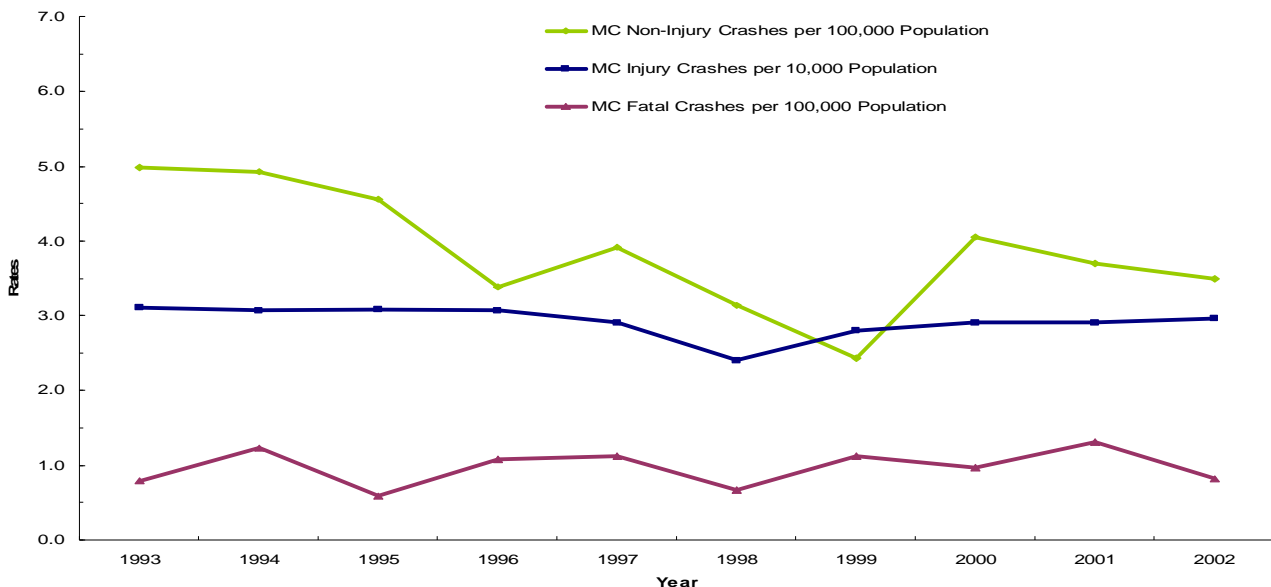
Motorcycle Crashes 1993 - 2002

Table 5.01 and Figure 5.01 show the trends in motorcycle crashes from 1993 to 2002. Total motorcycle crashes, and motorcycle injury crashes declined from 1993 to 1998, with the lowest number of crashes occurring in 1998. In 2002, there was a 4.0% increase in total motorcycle crashes and a 6.0% increase in motorcycle injury crashes from 2001. While, fatal motorcycle crashes vary from year to year, the small number of fatal motorcycle crashes makes it difficult to compare increases and decreases from year to year.

Table 5.01 Motorcycle Crashes (MC), Utah 1993-2002

Year	MC Non-Injury Crashes Rate per 100,000		MC Injury Crashes Rate per 10,000		MC Fatal Crashes Rate per 100,000		MC Total Crashes Rate per 10,000	
	Number	Population	Number	Population	Number	Population	Number	Population
1993	94	5.0	589	3.1	15	0.8	698	3.7
1994	96	4.9	597	3.1	24	1.2	717	3.7
1995	86	4.6	614	3.1	11	0.6	711	3.6
1996	66	3.4	626	3.1	21	1.1	713	3.5
1997	80	3.9	594	2.9	23	1.1	697	3.4
1998	66	3.1	509	2.4	14	0.7	589	2.8
1999	52	2.4	602	2.8	24	1.1	678	3.2
2000	88	4.1	624	2.9	21	1.0	733	3.4
2001	82	3.7	648	2.9	29	1.3	759	3.4
2002	81	3.5	689	3.0	19	0.8	789	3.4

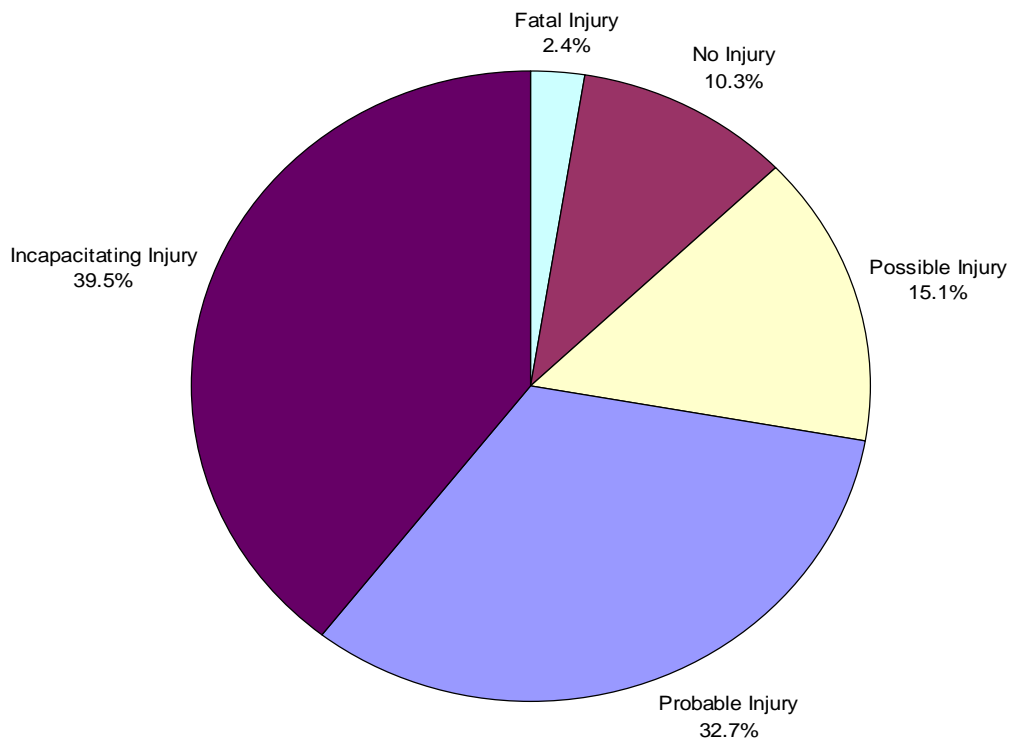
Figure 5.01 Motorcycle Crashes, Utah 1993-2002



Motorcycle Crash Severity

Figure 5.02 shows the breakdown of motorcycle crash severity. Most of the motorcycle crashes resulted in an injury (89.7%) compared to 37.2% of all motor vehicle crashes (see Figure 1.03). The percentage of motorcycle crashes that resulted in a fatality was 2.4%; this is nearly five times the percentage for all motor vehicle crashes (0.5%).

Figure 5.02 Severity of Motorcycle Crashes as Reported by Police, Utah 2002 (n=789)



Motorcycle Crashes by County

The rates of total motorcycle crashes, motorcycle injury crashes and motorcycle fatal crashes for each county are shown in Table 5.02. Based on 10,000 population, the top three counties for total motorcycle crashes were Rich, Garfield, and Kane. The top three counties for motorcycle injury crashes were Kane, Daggett, and Rich. The top three counties for fatal motorcycle crashes were Rich, Garfield, and Millard.

Table 5.02 Motorcycle (MC) Crashes by County, Utah 2002

County	Non-Injured Motorcyclists		Injured Motorcyclists		Motorcyclist Fatalities		Total Motorcyclists	
	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population
Beaver	1	16.0	10	160.4	0	0.0	11	176.5
Box Elder	0	0.0	8	18.3	0	0.0	8	18.3
Cache	3	3.1	29	30.4	0	0.0	32	33.5
Carbon	0	0.0	14	69.7	1	5.0	15	74.7
Daggett	0	0.0	2	210.1	0	0.0	2	210.1
Davis	10	4.0	55	22.0	1	0.4	66	26.4
Duchesne	0	0.0	5	33.8	1	6.8	6	40.6
Emery	0	0.0	3	28.4	0	0.0	3	28.4
Garfield	4	85.6	9	192.6	1	21.4	14	299.7
Grand	1	11.8	9	106.0	0	0.0	10	117.8
Iron	0	0.0	16	46.3	0	0.0	16	46.3
Juab	1	11.3	7	79.3	0	0.0	8	90.7
Kane	0	0.0	16	256.8	0	0.0	16	256.8
Millard	0	0.0	10	78.3	1	7.8	11	86.2
Morgan	2	27.8	13	180.4	0	0.0	15	208.2
Piute	0	0.0	2	142.2	0	0.0	2	142.2
Rich	1	50.5	4	202.1	1	50.5	6	303.2
Salt Lake	66	7.1	267	28.9	4	0.4	337	36.5
San Juan	0	0.0	7	49.1	0	0.0	7	49.1
Sanpete	2	8.5	0	0.0	1	4.2	3	12.7
Sevier	0	0.0	9	47.0	0	0.0	9	47.0
Summit	2	6.3	24	75.0	0	0.0	26	81.3
Tooele	2	4.4	8	17.5	2	4.4	12	26.3
Uintah	1	3.8	11	41.7	0	0.0	12	45.5
Utah	11	2.8	122	31.2	3	0.8	136	34.8
Wasatch	2	12.0	10	60.2	1	6.0	13	78.3
Washington	7	7.1	25	25.3	0	0.0	32	32.4
Wayne	0	0.0	2	77.4	0	0.0	2	77.4
Weber	14	7.0	57	28.5	2	1.0	73	36.5
Statewide	130	5.6	755	32.5	19	0.8	904	38.9

Motorcycle Crash Times

Total motorcycle crashes, and motorcycle injury crashes followed the same time pattern, peaking between 1 p.m. and 6 p.m. The highest proportion of fatal motorcycle crashes occurred during the 4 p.m. hour (Table 5.03 and Figure 5.03). Only one out of ten motorcycle crashes resulted in no injury.

Table 5.03 Hour of Motorcycle Crashes, Utah 2002

Hour	MC Non-Injury Crashes		MC Injury Crashes		MC Fatal Crashes		MC Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Midnight	2	2.5%	10	1.5%	2	10.5%	14	1.8%
1 a.m.	1	1.2%	13	1.9%	2	10.5%	16	2.0%
2 a.m.	1	1.2%	4	0.6%	0	0.0%	5	0.6%
3 a.m.	0	0.0%	8	1.2%	0	0.0%	8	1.0%
4 a.m.	1	1.2%	3	0.4%	0	0.0%	4	0.5%
5 a.m.	0	0.0%	5	0.7%	0	0.0%	5	0.6%
6 a.m.	2	2.5%	10	1.5%	0	0.0%	12	1.5%
7 a.m.	7	8.6%	13	1.9%	0	0.0%	20	2.5%
8 a.m.	2	2.5%	10	1.5%	0	0.0%	12	1.5%
9 a.m.	3	3.7%	13	1.9%	0	0.0%	16	2.0%
10 a.m.	3	3.7%	37	5.4%	0	0.0%	40	5.1%
11 a.m.	2	2.5%	19	2.8%	2	10.5%	23	2.9%
Noon	4	4.9%	40	5.8%	2	10.5%	46	5.8%
1 p.m.	6	7.4%	54	7.8%	2	10.5%	62	7.9%
2 p.m.	8	9.9%	54	7.8%	2	10.5%	64	8.1%
3 p.m.	7	8.6%	55	8.0%	1	5.3%	63	8.0%
4 p.m.	4	4.9%	57	8.3%	3	15.8%	64	8.1%
5 p.m.	10	12.3%	69	10.0%	0	0.0%	79	10.0%
6 p.m.	7	8.6%	50	7.3%	0	0.0%	57	7.2%
7 p.m.	5	6.2%	45	6.5%	0	0.0%	50	6.3%
8 p.m.	3	3.7%	33	4.8%	0	0.0%	36	4.6%
9 p.m.	2	2.5%	35	5.1%	1	5.3%	38	4.8%
10 p.m.	1	1.2%	29	4.2%	0	0.0%	30	3.8%
11 p.m.	0	0.0%	23	3.3%	2	10.5%	25	3.2%
Grand Total	81	100.0%	689	100.0%	19	100.0%	789	100.0%

Figure 5.03 Hour of Motorcycle Crashes, Utah 2002 (See Table 5.03 for values)

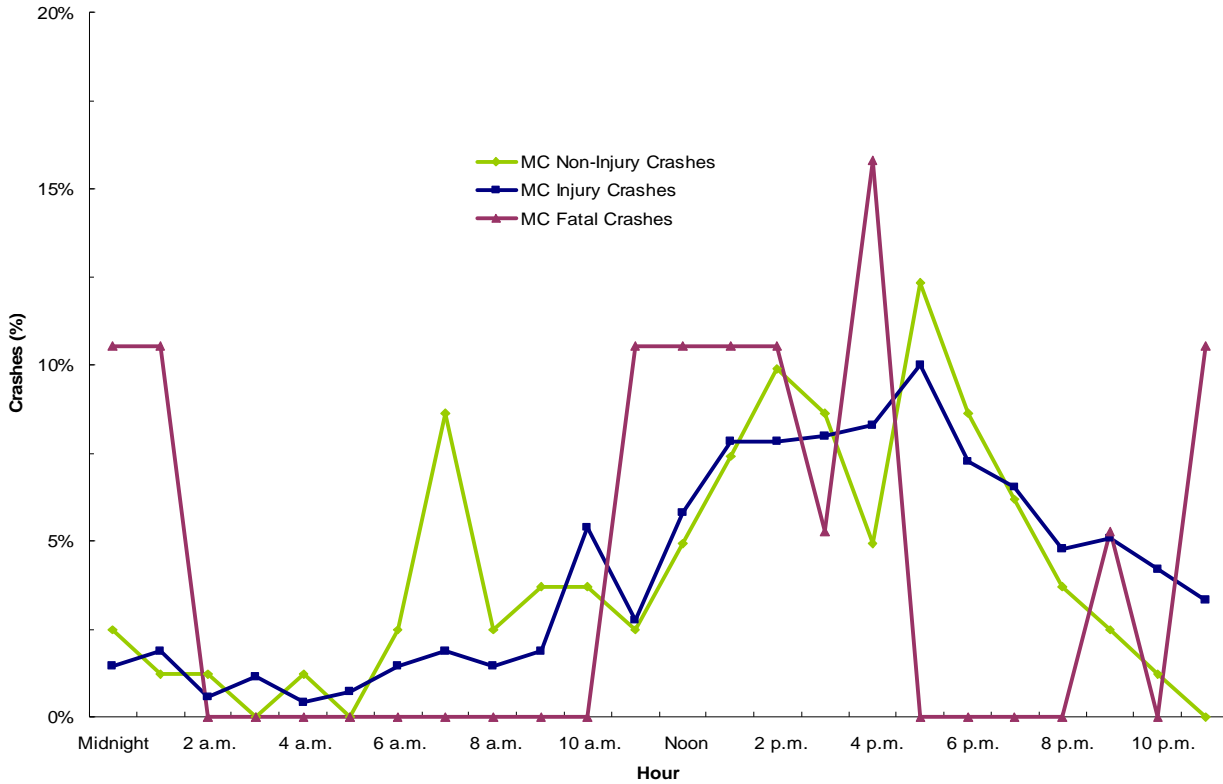


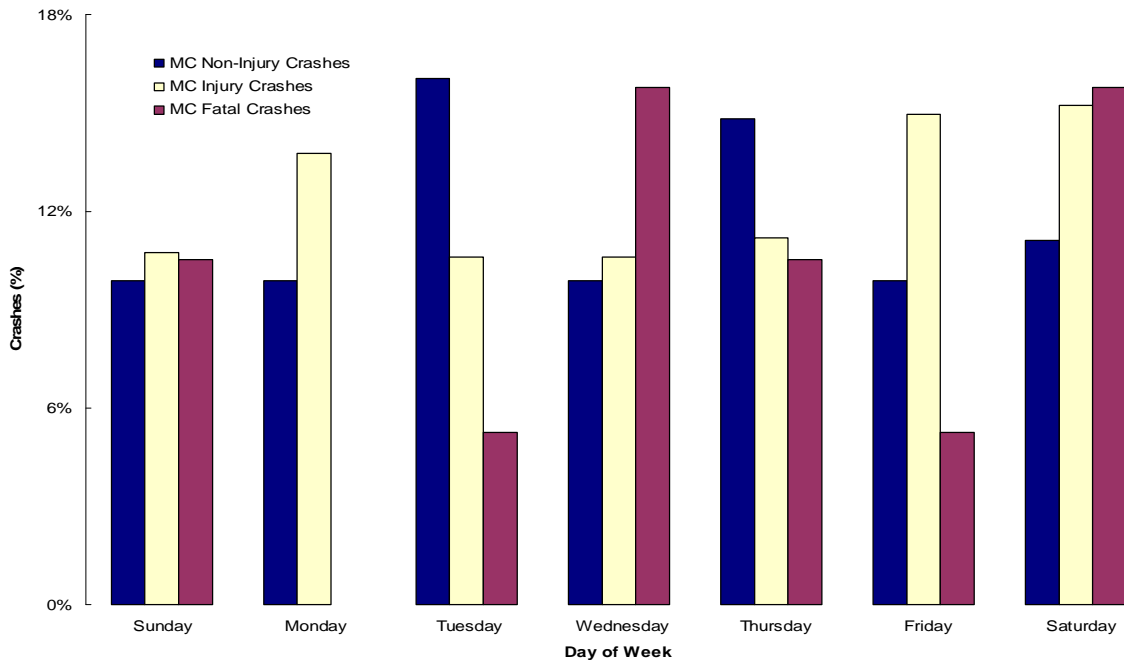
Table 5.04 shows the number of total motorcycle crashes and the rate of total motorcycle crashes per day for each month. May through September had the highest rate of total motorcycle crashes, injury crashes, and fatal crashes per day. Very few motorcycle crashes occurred in the winter months, which may be due to the decrease of individuals riding motorcycles in the winter.

Table 5.04 Month of Motorcycle Crashes, Utah 2002

Crash Month	MC Non-Injury Crashes		MC Injury Crashes		MC Fatal Crashes		MC Total Crashes	
	Number	Rate per day	Number	Rate per day	Number	Rate per day	Number	Rate per day
January	2	0.1	7	0.2	0	0.0	9	0.3
February	1	0.0	12	0.4	1	0.0	14	0.5
March	7	0.2	18	0.6	0	0.0	25	0.8
April	4	0.1	55	1.8	0	0.0	59	2.0
May	6	0.2	90	2.9	2	0.1	98	3.2
June	12	0.4	94	3.1	3	0.1	109	3.6
July	17	0.5	115	3.7	4	0.1	136	4.4
August	11	0.4	130	4.2	2	0.1	143	4.6
September	11	0.4	84	2.8	5	0.2	100	3.3
October	7	0.2	53	1.7	1	0.0	61	2.0
November	2	0.1	13	0.4	1	0.0	16	0.5
December	1	0.0	18	0.6	0	0.0	19	0.6
Total	81	0.2	689	1.9	19	0.1	789	2.2

The largest number of total motorcycle crashes and motorcycle injury crashes occurred on Friday, Saturday, and Monday (Figure 5.04 and Table 5.05). Fatal motorcycle crashes most frequently occurred on Wednesday and Saturday, accounting for 31.6% of all fatal motorcycle crashes. Tuesdays had the highest percentage of non-injury crashes..

Figure 5.04 Day of Week for Motorcycle Crashes, Utah 2002



Note: The above graph is based on percentages for the different crash categories. To read the above graph, look at one category across the days of the week. For example, look at only the white bars (i.e. motorcycle injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 5.05 Day of Week for Motorcycle Crashes, Utah 2002

Day of Week	MC Non-Injury Crashes		MC Injury Crashes		MC Fatal Crashes		MC Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Sunday	8	9.9%	74	10.7%	2	10.5%	84	10.6%
Monday	8	9.9%	95	13.8%	0	0.0%	103	13.1%
Tuesday	13	16.0%	73	10.6%	1	5.3%	87	11.0%
Wednesday	8	9.9%	73	10.6%	3	15.8%	84	10.6%
Thursday	12	14.8%	77	11.2%	2	10.5%	91	11.5%
Friday	8	9.9%	103	14.9%	1	5.3%	112	14.2%
Saturday	9	11.1%	105	15.2%	3	15.8%	117	14.8%
Missing	15	18.5%	89	12.9%	7	36.8%	111	14.1%
Total	81	100.0%	689	100.0%	19	100.0%	789	100.0%

Motorcycle Crash Characteristics

Table 5.06 shows that crashes involving another motor vehicle represented most of the total motorcycle crashes (47.8%). “Ran off the roadway “ (to the right, to the left, or through the median), accounted for 26.3% of the fatal motorcycle crashes.

Table 5.06 Types of Crashes Involving Motorcycles (MC), Utah 2002

Crash Type	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Two Motor Vehicles	59	72.8%	309	44.8%	9	47.4%	377	47.8%
Overtuned in Roadway	8	9.9%	120	17.4%	0	0.0%	128	16.2%
Ran Off Roadway - To the Right	2	2.5%	92	13.4%	2	10.5%	96	12.2%
Ran Off Roadway - To the Left	2	2.5%	44	6.4%	2	10.5%	48	6.1%
Motor Vehicle and Fixed Object	4	4.9%	30	4.4%	3	15.8%	37	4.7%
Other Non-Collision	2	2.5%	35	5.1%	0	0.0%	37	4.7%
Motor Vehicle and Wild Animal	2	2.5%	22	3.2%	0	0.0%	24	3.0%
Motor Vehicle and Other Object	0	0.0%	11	1.6%	1	5.3%	12	1.5%
Motor Vehicle and Domestic Animal	1	1.2%	10	1.5%	1	5.3%	12	1.5%
Ran Off Roadway Through Median	1	1.2%	7	1.0%	1	5.3%	9	1.1%
Motor Vehicle and Bicycle	0	0.0%	5	0.7%	0	0.0%	5	0.6%
Motor Vehicle and Pedestrian	0	0.0%	3	0.4%	0	0.0%	3	0.4%
Motor Vehicle and Skates, Scooters, and Skateboards	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Motor Vehicle and Train	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	81	100.0%	689	100.0%	19	100.0%	789	100.0%

Table 5.07 shows that the majority of total motorcycle crashes (58.5%) occurred in large urban areas. However, the fatal motorcycle crashes (47.4%) occurred in both rural and urban (200,000 people or more) areas. Motorcycle crashes were almost 6 times more likely to result in a fatality compared to other crashes.

Table 5.07 Urban / Rural Location of Motorcycle (MC) Crashes, Utah 2002

Urban / Rural Location	MC Non-Injury Crashes		MC Injury Crashes		MC Fatal Crashes		MC Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Rural Area - Up to 5,000	26	32.1%	245	35.6%	9	47.4%	280	35.5%
Small Urban 5,000-49,999	4	4.9%	30	4.4%	1	5.3%	35	4.4%
Urban 50,000-199,999	1	1.2%	15	2.2%	0	0.0%	16	2.0%
Urban 200,000 or More	46	56.8%	391	56.7%	9	47.4%	446	56.5%
Missing	4	4.9%	8	1.2%	0	0.0%	12	1.5%
Total	81	100.0%	689	100.0%	19	100.0%	789	100.0%

Table 5.08 shows that the leading collision types for total motorcycle crashes were two motor vehicles (47.8%) and overturned in a roadway (16.2%). These were also the leading collision types for injury motorcycle crashes at 44.8% and 17.4%, respectively. Two motor vehicles accounted for almost one-half (47.4%) of fatal motorcycle crashes.

Table 5.08 Collision Description of Motorcycle Crashes, Utah 2002

Crash Type	Non-Injury Crashes		Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Two Motor Vehicles	59	72.8%	309	44.8%	9	47.4%	377	47.8%
Overtuned in Roadway	8	9.9%	120	17.4%	0	0.0%	128	16.2%
Ran Off Roadway - To the Right	2	2.5%	92	13.4%	2	10.5%	96	12.2%
Ran Off Roadway - To the Left	2	2.5%	44	6.4%	2	10.5%	48	6.1%
Motor Vehicle and Fixed Object	4	4.9%	30	4.4%	3	15.8%	37	4.7%
Other Non-Collision	2	2.5%	35	5.1%	0	0.0%	37	4.7%
Motor Vehicle and Wild Animal	2	2.5%	22	3.2%	0	0.0%	24	3.0%
Motor Vehicle and Other Object	0	0.0%	11	1.6%	1	5.3%	12	1.5%
Motor Vehicle and Domestic Animal	1	1.2%	10	1.5%	1	5.3%	12	1.5%
Ran Off Roadway Through Median	1	1.2%	7	1.0%	1	5.3%	9	1.1%
Motor Vehicle and Bicycle	0	0.0%	5	0.7%	0	0.0%	5	0.6%
Motor Vehicle and Pedestrian	0	0.0%	3	0.4%	0	0.0%	3	0.4%
Motor Vehicle and Skates, Scooters, and Skateboards	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Motor Vehicle and Train	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	81	100.0%	689	100.0%	19	100.0%	789	100.0%

Motorcycle Crash Violations and Contributing Factors

Over one half (57.1%) of motorcycle drivers involved in crashes received a citation. The leading violations cited were “failure to yield the right of way,” “other non-moving violations,” and “improper lookout.”

Table 5.09 Violations for Motorcycle Crashes , Utah 2002

Violations	MC Non-Injury Crashes		MC Injury Crashes		MC Fatal Crashes		MC Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Failure to Yield Right of Way	5	11.9%	86	24.1%	0	0.0%	91	22.6%
Other Non-Moving Violations	6	14.3%	59	16.5%	0	0.0%	65	16.2%
Improper Lookout	9	21.4%	43	12.0%	0	0.0%	52	12.9%
All Other Moving Violations	2	4.8%	43	12.0%	0	0.0%	45	11.2%
Driving Under the Influence	1	2.4%	28	7.8%	0	0.0%	29	7.2%
Following Too Close	8	19.0%	18	5.0%	0	0.0%	26	6.5%
Improper Turn	1	2.4%	22	6.2%	1	33.3%	24	6.0%
Speeding	2	4.8%	19	5.3%	0	0.0%	21	5.2%
Red Light	2	4.8%	7	2.0%	0	0.0%	9	2.2%
Improper Lane Change	1	2.4%	7	2.0%	0	0.0%	8	2.0%
Reckless Driving	1	2.4%	7	2.0%	0	0.0%	8	2.0%
Negligent Collision	2	4.8%	5	1.4%	1	33.3%	8	2.0%
Hit and Run	0	0.0%	5	1.4%	0	0.0%	5	1.2%
Stop Sign	1	2.4%	3	0.8%	0	0.0%	4	1.0%
Improper Start and Stop	0	0.0%	2	0.6%	0	0.0%	2	0.5%
Improper Passing	0	0.0%	2	0.6%	0	0.0%	2	0.5%
Wrong Side of Road	1	2.4%	1	0.3%	0	0.0%	2	0.5%
Vehicle Homicide	0	0.0%	0	0.0%	1	33.3%	1	0.2%
Grand Total	42	100.0%	357	100.0%	3	100.0%	402	100.0%

Table 5.10 shows that the leading contributing factor for most motorcycle crashes was "improper lookout" which accounted for about 25% of contributing factors. "Following too closely" was the top contributor, 23.5%, in fatal motorcycle crashes. The combined contributing factors "driving under the influence", "had been drinking", and "under the influence of drugs" accounted for 3.0% of total motorcycle crashes and 2.6% of the motorcycle fatal crashes.

Table 5.10 Contributing Factors of Motorcycle Crashes, Utah 2002

Contributing Factors	MC Non-Injury Crashes		MC Injury Crashes		MC Fatal Crashes		MC Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Improper Lookout	21	25.6%	177	25.1%	2	11.8%	200	24.9%
Failed to Yield the Right of Way	8	9.8%	104	14.8%	2	11.8%	114	14.2%
Following Too Closely	9	11.0%	88	12.5%	4	23.5%	101	12.6%
Speed Too Fast	6	7.3%	65	9.2%	2	11.8%	73	9.1%
Other Improper Driving	11	13.4%	51	7.2%	3	17.6%	65	8.1%
Hit and Run	3	3.7%	31	4.4%	0	0.0%	34	4.2%
Improper Turn	5	6.1%	24	3.4%	0	0.0%	29	3.6%
Disregarded Traffic Signal	6	7.3%	19	2.7%	0	0.0%	25	3.1%
Driving Under the Influence	1	1.2%	19	2.7%	0	0.0%	20	2.5%
Improper Overtaking	2	2.4%	14	2.0%	0	0.0%	16	2.0%
Drove Left of Center	2	2.4%	12	1.7%	0	0.0%	14	1.7%
Improper Backing	0	0.0%	13	1.8%	0	0.0%	13	1.6%
Asleep	0	0.0%	11	1.6%	1	5.9%	12	1.5%
Non-Contact Vehicle Involved	0	0.0%	9	1.3%	2	11.8%	11	1.4%
Had Been Drinking	1	1.2%	9	1.3%	0	0.0%	10	1.2%
Passed Stop Sign	0	0.0%	10	1.4%	0	0.0%	10	1.2%
Tires Defective	0	0.0%	6	0.9%	0	0.0%	6	0.7%
Other Defective Condition	1	1.2%	5	0.7%	0	0.0%	6	0.7%
Fatigued	0	0.0%	4	0.6%	1	5.9%	5	0.6%
Sick or ill	1	1.2%	3	0.4%	0	0.0%	4	0.5%
Jackknife	1	1.2%	3	0.4%	0	0.0%	4	0.5%
Cargo Loss or Shift	0	0.0%	4	0.6%	0	0.0%	4	0.5%
Non-collision Fire	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Tires Defective	0	0.0%	6	0.9%	0	0.0%	6	0.7%
Improper Parking	0	0.0%	3	0.4%	0	0.0%	3	0.4%
Improper Backing	0	0.0%	13	1.8%	0	0.0%	13	1.6%
Vehicle Rolling in Traffic Lane	0	0.0%	3	0.4%	0	0.0%	3	0.4%
Asleep	0	0.0%	11	1.6%	1	5.9%	12	1.5%
Down Hill Runaway	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Cargo Loss or Shift	0	0.0%	4	0.6%	0	0.0%	4	0.5%
Steering Mechanism Defective	1	1.2%	1	0.1%	0	0.0%	2	0.2%
Eyesight Defective Uncorrected	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Fatigued	0	0.0%	4	0.6%	1	5.9%	5	0.6%
Stolen	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Jackknife	1	1.2%	3	0.4%	0	0.0%	4	0.5%
Sick or ill	1	1.2%	3	0.4%	0	0.0%	4	0.5%
Explosion or Fire	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Seperation of Units	1	1.2%	0	0.0%	0	0.0%	1	0.1%
Total	82	100.0%	704	100.0%	17	100.0%	803	100.0%

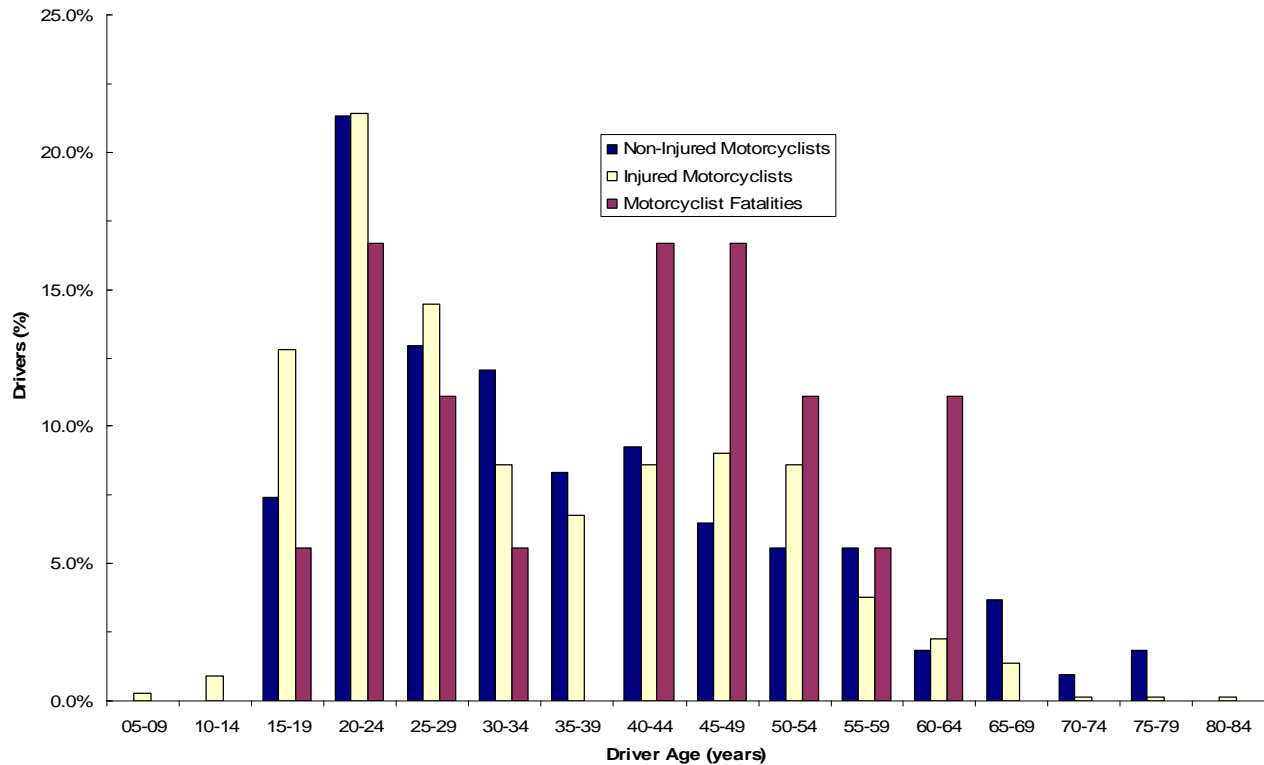
Motorcycle Drivers Involved in Crashes

Table 5.11 and Figure 5.05 show that almost half (48.5%) of the motorcycle drivers involved in total crashes were under the age of 30 years. The number of motorcycle drivers involved in total crashes and injury crashes was highest for younger drivers (20-24 years) and decreased with increasing age. Almost half of the motorcycle drivers (44.5%) involved in fatal crashes were between the ages of 40 and 54 years.

Table 5.11 Age of Motorcycle (MC) Drivers Involved in Crashes, Utah 2002

Driver's Age	Non-Injured Motorcyclists		Injured Motorcyclists		Motorcyclist Fatalities		Total Motorcyclists	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
05-09	0	0.0%	2	0.3%	0	0.0%	2	0.3%
10-14	0	0.0%	6	0.9%	0	0.0%	6	0.8%
15-19	8	7.4%	85	12.8%	1	5.6%	94	11.9%
20-24	23	21.3%	142	21.4%	3	16.7%	168	21.3%
25-29	14	13.0%	96	14.5%	2	11.1%	112	14.2%
30-34	13	12.0%	57	8.6%	1	5.6%	71	9.0%
35-39	9	8.3%	45	6.8%	0	0.0%	54	6.8%
40-44	10	9.3%	57	8.6%	3	16.7%	70	8.9%
45-49	7	6.5%	60	9.0%	3	16.7%	70	8.9%
50-54	6	5.6%	57	8.6%	2	11.1%	65	8.2%
55-59	6	5.6%	25	3.8%	1	5.6%	32	4.1%
60-64	2	1.9%	15	2.3%	2	11.1%	19	2.4%
65-69	4	3.7%	9	1.4%	0	0.0%	13	1.6%
70-74	1	0.9%	1	0.2%	0	0.0%	2	0.3%
75-79	2	1.9%	1	0.2%	0	0.0%	3	0.4%
80-84	0	0.0%	1	0.2%	0	0.0%	1	0.1%
Unknown	3	2.8%	5	0.8%	0	0.0%	8	1.0%
Total	108	100.0%	664	100.0%	18	100.0%	790	100.0%

Figure 5.05 Age of Motorcycle Drivers Involved in Crashes, Utah 2002
(See Table 5.11 for values)



Note: The above graph is based on percentages for the different crash categories. To read the above graph, look at one category across the age groups. For example, look at only the white bars (i.e. drivers in motorcycle injury crashes) from age group to age group. Do not compare the heights of the different crash categories for a specific age group.

Most motorcycle drivers involved in crashes were male (90.1%). This does not necessarily indicate that male motorcycle drivers are at greater risk for a crash, but may reflect the higher proportion of male motorcycle drivers in Utah (Table 5.12).

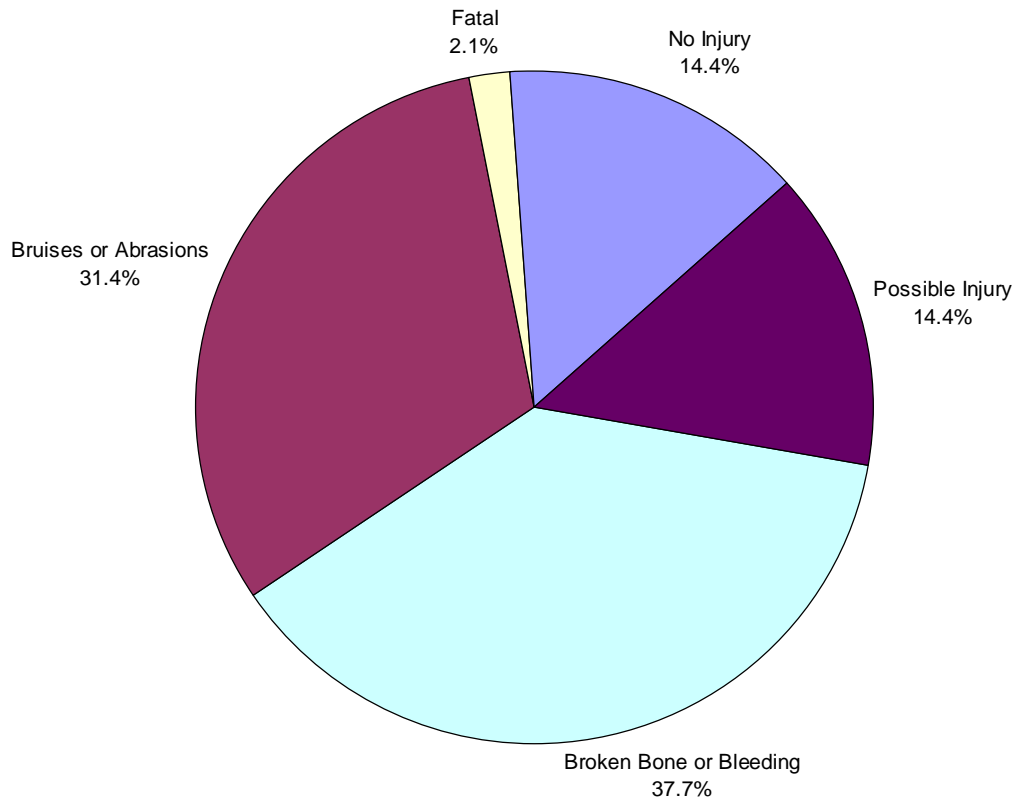
Table 5.12 Gender of Motorcycle (MC) Drivers Involved in Crashes, Utah 2002

Driver's Gender	Non-Injured Motorcyclists		Injured Motorcyclists		Motorcyclist Fatalities		Total Motorcyclists	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	15	13.9%	57	8.6%	1	5.6%	73	9.2%
Male	91	84.3%	604	91.0%	17	94.4%	712	90.1%
Unknown	2	1.9%	3	0.5%	0	0.0%	5	0.6%
Total	108	100.0%	664	100.0%	18	100.0%	790	100.0%

Motorcyclist Injury Severity

Figure 5.06 shows that motorcyclists involved in a crash were injured at a much higher percentage (85.6%) compared to all other motor vehicle crash participants (21.9%) (see Figure 2.03). A fatal injury was sustained by 2.1% of motorcyclist compared to 0.2% of all motor vehicle crash participants. Fatalities were nearly 11 times higher for motorcyclists than for other motor vehicle crash participants.

Figure 5.06 Motorcyclist Injury Severity as Reported by Police, Utah 2002 (n=789)



Motorcyclists by County

Table 5.13 shows that while Salt Lake County has the largest number of total motorcyclists, injured motorcyclists and motorcyclists killed in crashes, the county did not have the highest rates per population. Rich County had the highest rate per population of total and injured motorcyclists and the highest rate of fatalities.

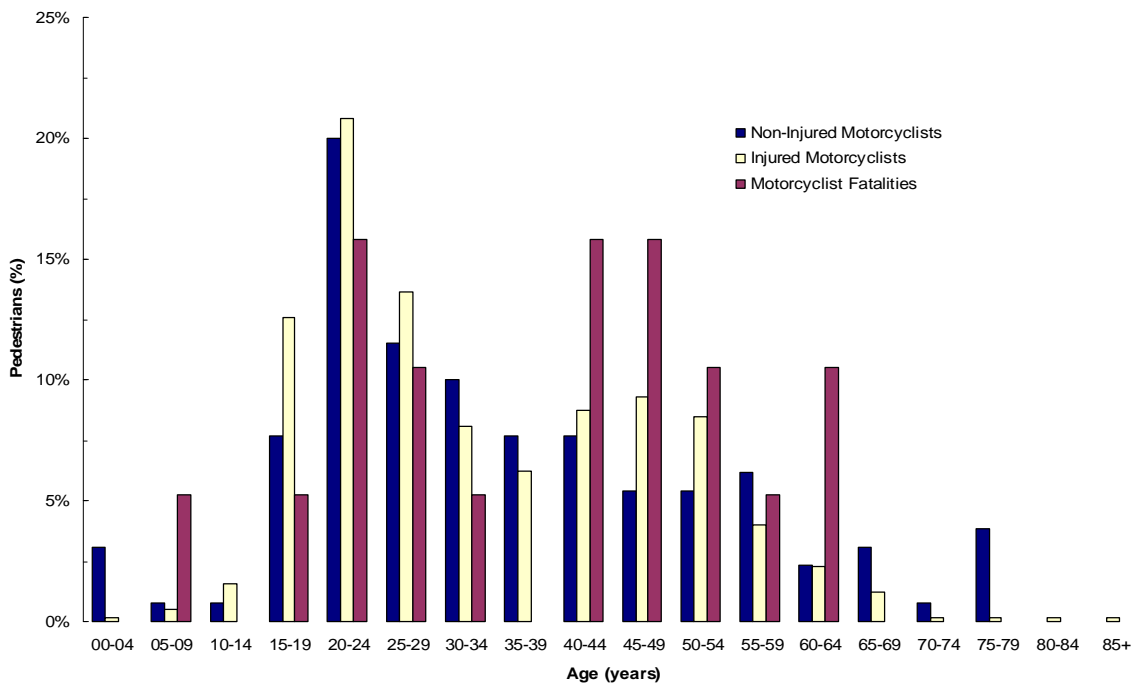
Table 5.13 Motorcyclists by County, Utah 2002

County	MC Non-Injury Crashes			MC Injury Crashes			MC Fatal Crashes			MC Total Crashes		
	Number	Rate per 100	Rate per 10,000	Number	Rate per 100	Rate per 10,000	Number	Rate per 1000	Rate per 10,000	Number	Rate per 100	Rate per 10,000
Beaver	1	0.4	1.6	7	2.9	11.2	0	0.0	0.0	8	3.3	12.8
Box Elder	0	0.0	0.0	8	0.8	1.8	0	0.0	0.0	8	0.8	1.8
Cache	2	0.2	0.2	26	3.1	2.7	0	0.0	0.0	28	3.4	2.9
Carbon	0	0.0	0.0	10	2.9	5.0	1	2.9	0.5	11	3.2	5.5
Daggett	0	0.0	0.0	2	7.3	21.0	0	0.0	0.0	2	7.3	21.0
Davis	6	0.3	0.2	48	2.1	1.9	1	0.4	0.0	55	2.4	2.2
Duchesne	0	0.0	0.0	3	1.5	2.0	1	4.9	0.7	4	2.0	2.7
Emery	0	0.0	0.0	2	0.5	1.9	0	0.0	0.0	2	0.5	1.9
Garfield	1	0.7	2.1	7	5.1	15.0	1	7.3	2.1	9	6.5	19.3
Grand	0	0.0	0.0	8	2.7	9.4	0	0.0	0.0	8	2.7	9.4
Iron	0	0.0	0.0	12	1.9	3.5	0	0.0	0.0	12	1.9	3.5
Juab	0	0.0	0.0	7	1.8	7.9	0	0.0	0.0	7	1.8	7.9
Kane	0	0.0	0.0	13	9.9	20.9	0	0.0	0.0	13	9.9	20.9
Millard	0	0.0	0.0	8	1.8	6.3	1	2.3	0.8	9	2.0	7.1
Morgan	1	0.8	1.4	13	10.2	18.0	0	0.0	0.0	14	11.0	19.4
Piute	0	0.0	0.0	2	6.1	14.2	0	0.0	0.0	2	6.1	14.2
Rich	1	2.3	5.1	4	9.2	20.2	1	23.0	5.1	6	13.8	30.3
Salt Lake	38	0.5	0.4	257	3.2	2.8	4	0.5	0.0	299	3.7	3.2
San Juan	0	0.0	0.0	5	1.9	3.5	0	0.0	0.0	5	1.9	3.5
Sanpete	2	0.9	0.8	0	0.0	0.0	1	4.4	0.4	3	1.3	1.3
Sevier	0	0.0	0.0	7	1.7	3.7	0	0.0	0.0	7	1.7	3.7
Summit	1	0.1	0.3	18	2.6	5.6	0	0.0	0.0	19	2.8	5.9
Tooele	3	0.4	0.7	8	1.0	1.8	2	2.5	0.4	13	1.6	2.8
Uintah	1	0.3	0.4	8	2.7	3.0	0	0.0	0.0	9	3.1	3.4
Utah	6	0.2	0.2	111	3.3	2.8	3	0.9	0.1	120	3.6	3.1
Wasatch	3	1.1	1.8	9	3.4	5.4	1	3.8	0.6	13	4.9	7.8
Washington	4	0.4	0.4	27	2.8	2.7	0	0.0	0.0	31	3.2	3.1
Wayne	0	0.0	0.0	2	4.7	7.7	0	0.0	0.0	2	4.7	7.7
Weber	11	0.7	0.6	56	3.5	2.8	2	1.3	0.1	69	4.3	3.5
Statewide	81	0.4	0.3	688	3.0	3.0	19	0.8	0.1	788	3.5	3.4

Motorcyclist Characteristics

The largest number of total motorcyclists and injured motorcyclists were aged 20 to 24 years show the age of both the driver and the passenger of a motorcycle involved in a crash Figure 5.07 and Table 5.14. Motorcycle crash fatalities occurred most often in the 40 to 49 year age groups.

Figure 5.07 Age of Motorcyclists, Utah 2002



Note: The above graph is based on percentages for the different injury categories. To read the above graph, look at one category across the age groups. For example, look at only the white bars (i.e. injured motorcyclist) from age group to age groups. Do not compare the heights of the different injury categories for a specific age group.

Table 5.14 Age of Motorcyclists, Utah 2002

Age	Non-Injured Motorcyclists		Injured Motorcyclists		Motorcyclist Fatalities		Total Motorcyclists	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
00-04	4	3.1%	1	0.1%	0	0.0%	5	0.6%
05-09	1	0.8%	4	0.5%	1	5.3%	6	0.7%
10-14	1	0.8%	12	1.6%	0	0.0%	13	1.4%
15-19	10	7.7%	95	12.6%	1	5.3%	106	11.7%
20-24	26	20.0%	157	20.8%	3	15.8%	186	20.6%
25-29	15	11.5%	103	13.6%	2	10.5%	120	13.3%
30-34	13	10.0%	61	8.1%	1	5.3%	75	8.3%
35-39	10	7.7%	47	6.2%	0	0.0%	57	6.3%
40-44	10	7.7%	66	8.7%	3	15.8%	79	8.7%
45-49	7	5.4%	70	9.3%	3	15.8%	80	8.8%
50-54	7	5.4%	64	8.5%	2	10.5%	73	8.1%
55-59	8	6.2%	30	4.0%	1	5.3%	39	4.3%
60-64	3	2.3%	17	2.3%	2	10.5%	22	2.4%
65-69	4	3.1%	9	1.2%	0	0.0%	13	1.4%
70-74	1	0.8%	1	0.1%	0	0.0%	2	0.2%
75-79	5	3.8%	1	0.1%	0	0.0%	6	0.7%
80-84	0	0.0%	1	0.1%	0	0.0%	1	0.1%
85+	0	0.0%	1	0.1%	0	0.0%	1	0.1%
Unknown	5	3.8%	15	2.0%	0	0.0%	18	2.0%
Total	130	100.0%	755	100.0%	19	100.0%	904	100.0%

Table 5.15 shows that the majority of motorcycle crash participants (81.4%), injured motorcyclists (82.4%) and motorcycle fatalities (89.5%) were male.

Table 5.15 Gender of Motorcyclists, Utah 2002

Gender	Non-Injured Motorcyclists		Injured Motorcyclists		Motorcyclist Fatalities		Total Motorcyclists	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	30	23.1%	129	17.1%	2	10.5%	161	17.8%
Male	97	74.6%	622	82.4%	17	89.5%	736	81.4%
Unknown	3	2.3%	4	0.5%	0	0.0%	7	0.8%
Total	130	100.0%	755	100.0%	19	100.0%	904	100.0%

Examination of the crash placement (driver vs passenger) shows that drivers accounted for the majority (87.4%) of injured motorcyclists and 94.7% of the motorcyclist fatalities (Table 5.16). In addition, there were 1 pedestrian and 2 bicyclists involved in motorcycle crashes who sustained non-fatal injuries.

Table 5.16 Crash Placement of Motorcyclists, Utah 2002

Crash Placement	Non-Injured Motorcyclists		Injured Motorcyclists		Motorcyclist Fatalities		Total Motorcyclists	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Driver	108	83.1%	664	87.9%	18	94.7%	790	87.4%
Passenger	22	16.9%	91	12.1%	1	5.3%	114	12.6%
Total	130	100.0%	755	100.0%	19	100.0%	904	100.0%

Only 37.4% of motorcycle drivers and passengers involved in crashes wore a helmet (Table 5.17). The percentage of helmet use was slightly higher for those who were injured (38.8%), but lower among the fatalities (26.3%). Utah law states that anyone under the age of 18 years riding a motorcycle either as the driver or as a passenger must wear a helmet approved by the Department of Public Safety.

Table 5.17 Helmet Use by Motorcyclists Involved in Crashes, Utah 2002

Helmet	Non-Injured Motorcyclists		Injured Motorcyclists		Motorcyclist Fatalities		Total Motorcyclists	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Used	40	30.8%	293	38.8%	5	26.3%	338	37.4%
Not Used/ Unknown	90	69.2%	462	61.2%	14	73.7%	566	62.6%
Total	130	100.0%	755	100.0%	19	100.0%	904	100.0%

Alcohol and Other Drugs:

Of the 19 fatal motorcycle crashes, 4 involved alcohol and other drug use by the motorcycle driver.

Section 6

Crashes Involving Teenage Drivers, 2002

Teenage Driver Crashes 1993 - 2002	6.2
Teenage Driver Crash Severity	6.3
Teenage Driver Crashes by County	6.4
Teenage Driver Crash Times.....	6.5
Teenage Driver Crash Violations and Contributing Factors	6.8
Teenage Driver Crash Characteristics.....	6.10
Teenage Driver Characteristics.....	6.11
Injury Severity of Occupants in Vehicles of Teenage Drivers.....	6.12
Occupants in Vehicles of Teenage Drivers.....	6.13
Graduated Licensing Law	6.15

TABLES

Table 6.01 Teenage Driver Crashes, Utah 1993 - 2002
Table 6.02 Teenage Driver Crashes by County, Utah 2002
Table 6.03 Hour of Teenage Driver Crashes, Utah 2002
Table 6.04 Month of Teenage Driver Crashes, Utah 2002
Table 6.05 Day of Week for Teenage Driver Crashes, Utah 2002
Table 6.06 Violations for Teenage Driver Crashes, Utah 2002
Table 6.07 Contributing Factors of Teenage Driver Crashes, Utah 2002
Table 6.08 Collision Description of Teenage Driver Crashes, Utah 2002
Table 6.09 Number of Occupants in Teenage Drivers' Vehicle, Utah 2002
Table 6.10 Age and Gender of Occupants in Vehicles of Teenage Drivers by Injury Severity, Utah 2002

FIGURES

Figure 6.01 Teenage Driver Crashes, Utah 1993 - 2002
Figure 6.02 Severity of Teenage Driver Crashes as Reported by Police, Utah 2002
Figure 6.03 Hour of Teenage Driver Crashes, Utah 2002
Figure 6.04 Day of Week for Teenage Driver Crashes, Utah 2002
Figure 6.05 Gender of Teenage Drivers Involved in Crashes, Utah 2002
Figure 6.06 Seatbelt Use of Teenage Drivers Involved in Crashes, Utah 2002
Figure 6.07 Injury Severity of Occupants in Vehicles of Teenage Drivers as Reported by Police, Utah 2002
Figure 6.08 Number of Occupants in Teenage Drivers' Vehicle, Utah 2002

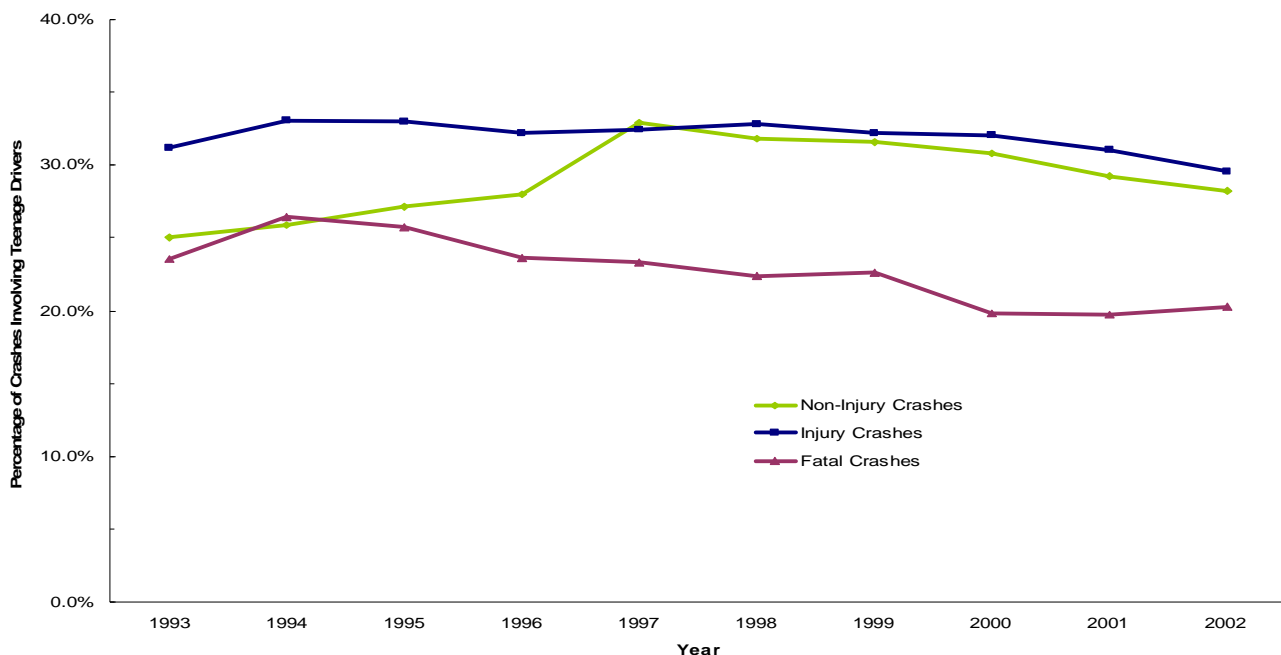
Teenage Driver Crashes 1993 - 2002

Teenage drivers aged 15 to 19 years are a special concern because of their high crash rates and lack of driving experience. Table 6.01 and Figure 6.01 show that approximately one-third (28.7%) of all crashes in 2002 involved teenage drivers. The largest percentage of crashes involving teenage drivers occurred in 1997 and has decreased each year since. The largest proportion of injury crashes and fatal crashes occurred in 1994 and has also decreased each year since.

Table 6.01 Teenage Driver Crashes, Utah 1993 - 2002

Year	Non-Injury Crashes			Injury Crashes			Fatal Crashes			Total Crashes		
	All Drivers	Teenage Driver	Percent Involving Teenage Drivers	All Drivers	Teenage Driver	Percent Involving Teenage Drivers	All Drivers	Teenage Driver	Percent Involving Teenage Drivers	All Drivers	Teenage Driver	Percent Involving Teenage Drivers
1993	38,357	9,587	25.0%	17,088	5,324	31.2%	259	61	23.6%	55,704	14,972	26.9%
1994	40,243	10,411	25.9%	18,726	6,197	33.1%	303	80	26.4%	59,272	16,688	28.2%
1995	37,532	10,193	27.2%	19,828	6,542	33.0%	284	73	25.7%	57,644	16,808	29.2%
1996	40,225	11,267	28.0%	20,988	6,764	32.2%	292	69	23.6%	61,505	18,100	29.4%
1997	33,512	11,018	32.9%	21,131	6,851	32.4%	309	72	23.3%	54,952	17,941	32.6%
1998	34,337	10,916	31.8%	19,427	6,377	32.8%	308	69	22.4%	54,072	17,362	32.1%
1999	32,971	10,406	31.6%	19,513	6,281	32.2%	318	72	22.6%	52,802	16,759	31.7%
2000	33,269	10,252	30.8%	19,564	6,263	32.0%	318	63	19.8%	53,151	16,578	31.2%
2001	33,113	9,686	29.3%	19,332	6,006	31.1%	259	51	19.7%	52,704	15,743	29.9%
2002	33,542	9,478	28.3%	19,552	5,776	29.5%	276	56	20.3%	53,370	15,310	28.7%

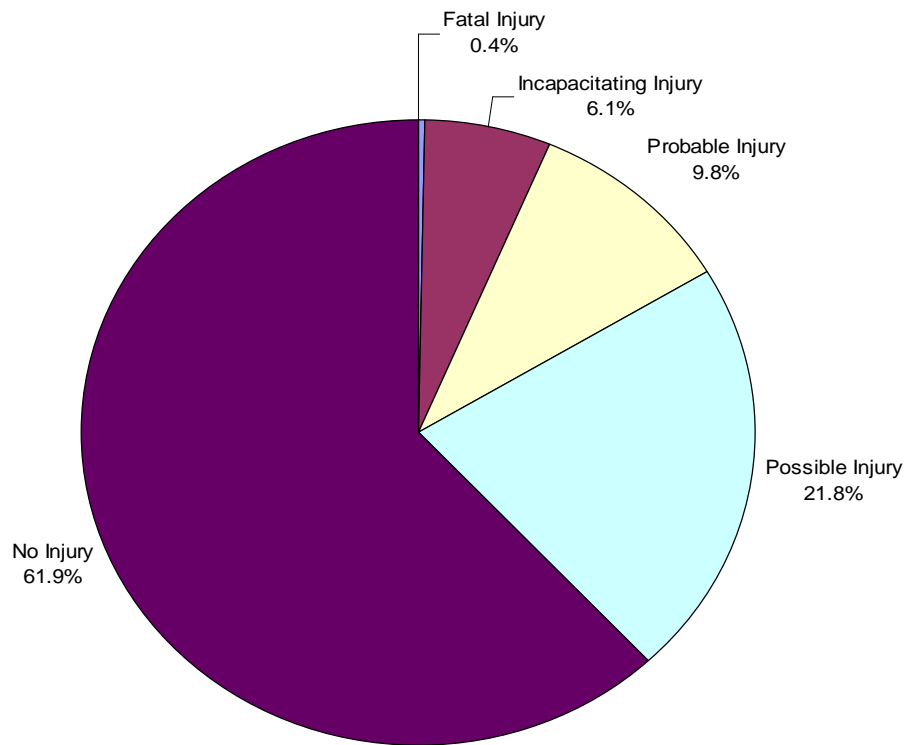
Figure 6.01 Teenage Driver Crashes, Utah 1993 - 2002



Teenage Driver Crash Severity

Figure 6.02 shows the crash severity of teenage driver crashes. Similar to all motor vehicle crashes (see Figure 1.03), over one-third (38.1%) of teenage driver crashes resulted in some level of injury. Fatal crashes were lower among teenage driver crashes (0.4%) compared to all motor vehicle crashes (0.5%).

Figure 6.02 Severity of Teenage Driver Crashes as Reported by Police, Utah 2002 (n=15,310)



Teenage Driver Crashes by County

The number of crashes, the number of teenage driver crashes and the percent of crashes that involved a teenage driver are shown by county in Table 6.02. Davis, Sanpete, and Rich counties had the highest percentage of crashes that involved a teenage driver. Sanpete, Rich, and Duchesne had the highest fatal crashes involving teenage drivers. Statewide teenage drivers were involved in about one-fifth (20.3%) of all fatal crashes.

Table 6.02 Teenage Driver Crashes by County, Utah 2002

County	Non-Injury Crashes			Injury Crashes			Fatal Crashes			Total Crashes		
	All Drivers	Teenage Driver	Percent Involving Teenage Drivers	All Drivers	Teenage Driver	Percent Involving Teenage Drivers	All Drivers	Teenage Driver	Percent Involving Teenage Drivers	All Drivers	Teenage Driver	Percent Involving Teenage Drivers
Beaver	207	28	13.5%	103	17	16.5%	7.0	2	28.6%	317	47	14.8%
Box Elder	600	153	25.5%	351	115	32.8%	5.0	0	0.0%	956	268	28.0%
Cache	1,527	481	31.5%	679	234	34.5%	9.0	3	33.3%	2,215	718	32.4%
Carbon	316	86	27.2%	121	39	32.2%	3.0	0	0.0%	440	125	28.4%
Daggett	29	3	10.3%	14	2	14.3%	0.0	0	0.0%	43	5	0.0%
Davis	2,912	1,043	35.8%	1,580	559	35.4%	18.0	5	27.8%	4,510	1,607	35.6%
Duchesne	210	46	21.9%	89	22	24.7%	2.0	1	50.0%	301	69	22.9%
Emery	212	34	16.0%	137	38	27.7%	8.0	1	12.5%	357	73	20.4%
Garfield	105	10	9.5%	66	15	22.7%	6.0	0	0.0%	177	25	14.1%
Grand	182	24	13.2%	119	24	20.2%	8.0	2	25.0%	309	50	16.2%
Iron	585	157	26.8%	324	79	24.4%	11.0	3	27.3%	920	239	26.0%
Juab	205	32	15.6%	145	30	20.7%	7.0	0	0.0%	357	62	17.4%
Kane	147	27	18.4%	84	17	20.2%	3.0	0	0.0%	234	44	18.8%
Millard	297	50	16.8%	164	29	17.7%	5.0	0	0.0%	466	79	17.0%
Morgan	115	41	35.7%	47	9	19.1%	1.0	0	0.0%	163	50	30.7%
Piute	37	3	8.1%	14	1	7.1%	1.0	0	0.0%	52	4	7.7%
Rich	46	14	30.4%	26	11	42.3%	2.0	1	50.0%	74	26	35.1%
Salt Lake	14,060	3,837	27.3%	8,724	2,424	27.8%	48.0	9	18.8%	22,832	6,270	27.5%
San Juan	201	19	9.5%	115	21	18.3%	6.0	2	33.3%	322	42	13.0%
Sanpete	219	66	30.1%	147	59	40.1%	7.0	4	57.1%	373	129	34.6%
Sevier	379	82	21.6%	243	43	17.7%	6.0	1	16.7%	628	126	20.1%
Summit	690	116	16.8%	250	52	20.8%	4.0	1	25.0%	944	169	17.9%
Tooele	545	137	25.1%	317	86	27.1%	21.0	3	14.3%	883	226	25.6%
Uintah	322	95	29.5%	171	59	34.5%	7.0	1	14.3%	500	155	31.0%
Utah	4,564	1,415	31.0%	2,868	939	32.7%	32.0	7	21.9%	7,464	2,361	31.6%
Wasatch	426	94	22.1%	147	29	19.7%	7.0	0	0.0%	580	123	21.2%
Washington	1,204	423	35.1%	643	207	32.2%	15.0	4	26.7%	1,862	634	34.0%
Wayne	59	7	11.9%	27	7	25.9%	1.0	0	0.0%	87	14	16.1%
Weber	3,101	952	30.7%	1,822	609	33.4%	26.0	6	23.1%	4,949	1,567	31.7%
Statewide	33,542	9,475	28.2%	19,552	5,776	29.5%	276.0	56	20.3%	53,370	15,307	28.7%

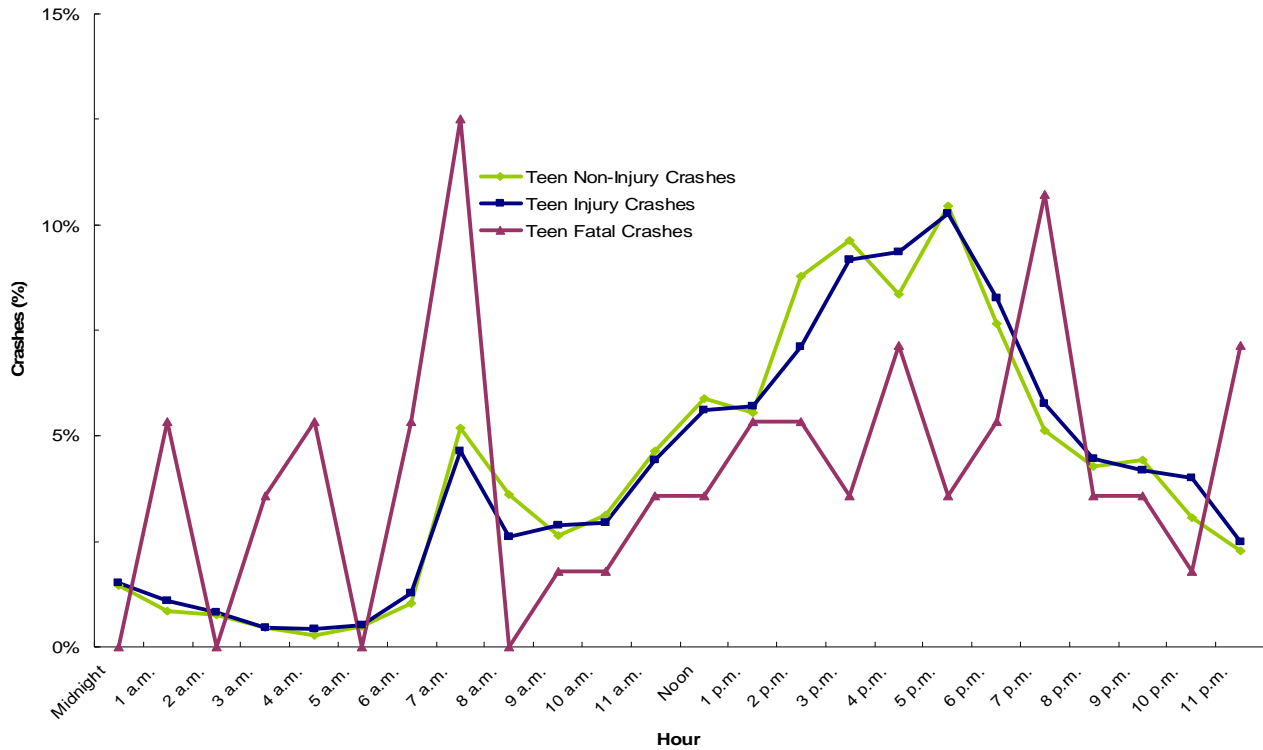
Teenage Driver Crash Times

Table 6.03 and Figure 6.03 show that total crashes involving teenage drivers and injury crashes involving teenage drivers were highest from 2 p.m. to 6 p.m. (after school hours) with slight peaks at 7 a.m. and noon. Fatal teenage driver crashes peaked at 7 a.m. and again from 4 p.m. to 7 p.m.

Table 6.03 Hour of Teenage Driver Crashes, Utah 2002

Hour	Teen Non-Injury Crashes		Teen Injury Crashes		Teen Fatal Crashes		Teen Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Midnight	137	1.4%	87	1.5%	0	0.0%	224	1.5%
1 a.m.	81	0.9%	63	1.1%	3	5.4%	147	1.0%
2 a.m.	72	0.8%	47	0.8%	0	0.0%	119	0.8%
3 a.m.	42	0.4%	27	0.5%	2	3.6%	71	0.5%
4 a.m.	26	0.3%	24	0.4%	3	5.4%	53	0.3%
5 a.m.	46	0.5%	29	0.5%	0	0.0%	75	0.5%
6 a.m.	97	1.0%	73	1.3%	3	5.4%	173	1.1%
7 a.m.	491	5.2%	269	4.7%	7	12.5%	767	5.0%
8 a.m.	342	3.6%	151	2.6%	0	0.0%	493	3.2%
9 a.m.	251	2.6%	166	2.9%	1	1.8%	418	2.7%
10 a.m.	295	3.1%	171	3.0%	1	1.8%	467	3.1%
11 a.m.	441	4.7%	256	4.4%	2	3.6%	699	4.6%
Noon	558	5.9%	325	5.6%	2	3.6%	885	5.8%
1 p.m.	526	5.5%	329	5.7%	3	5.4%	858	5.6%
2 p.m.	833	8.8%	411	7.1%	3	5.4%	1,247	8.1%
3 p.m.	913	9.6%	530	9.2%	2	3.6%	1,445	9.4%
4 p.m.	792	8.4%	541	9.4%	4	7.1%	1,337	8.7%
5 p.m.	990	10.4%	592	10.2%	2	3.6%	1,584	10.3%
6 p.m.	725	7.6%	477	8.3%	3	5.4%	1,205	7.9%
7 p.m.	487	5.1%	334	5.8%	6	10.7%	827	5.4%
8 p.m.	406	4.3%	257	4.4%	2	3.6%	665	4.3%
9 p.m.	421	4.4%	242	4.2%	2	3.6%	665	4.3%
10 p.m.	290	3.1%	232	4.0%	1	1.8%	523	3.4%
11 p.m.	216	2.3%	143	2.5%	4	7.1%	363	2.4%
Grand Total	9,478	100.0%	5,776	100.0%	56	100.0%	15,310	100.0%

Figure 6.03 Hour of Teenage Driver Crashes, Utah 2002 (See Table 6.03 for values)



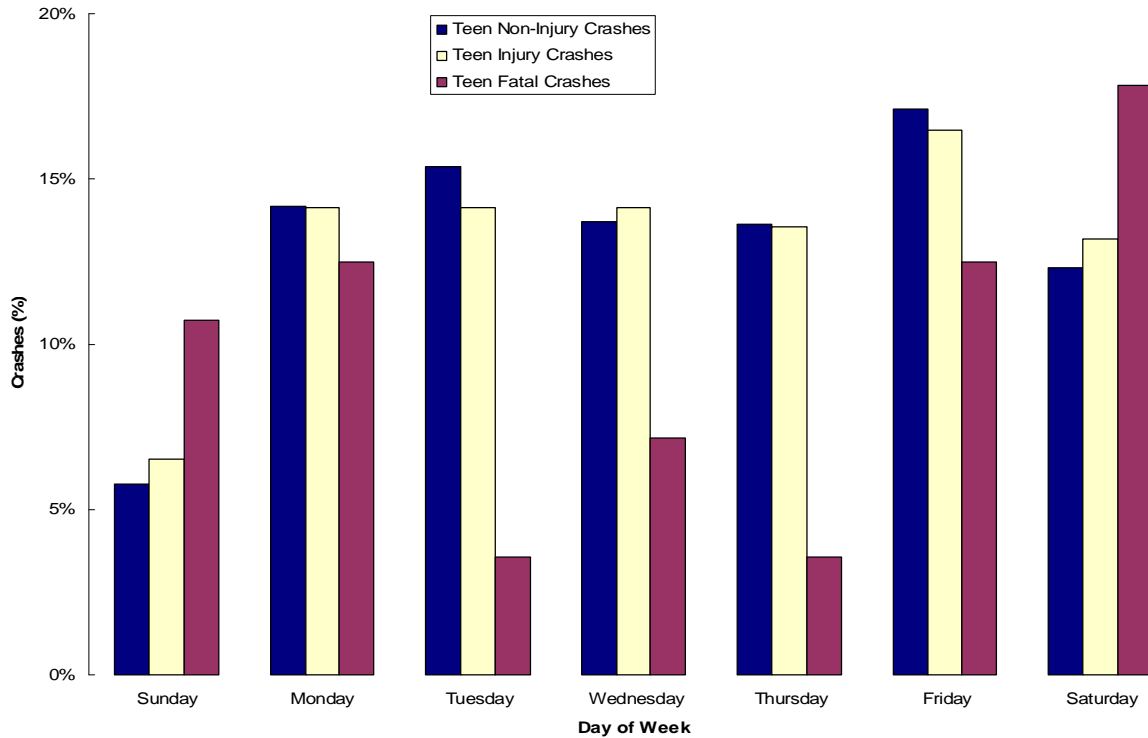
The leading months for total teenage driver crashes were October and September. (Table 6.04). August and October had the highest rates of teenage driver injury crashes and teenage driver fatal crashes.

Table 6.04 Month of Teenage Driver Crashes, Utah 2002

Crash Month	Teen Non-Injury Crashes		Teen Injury Crashes		Teen Fatal Crashes		Teen Total Crashes	
	Number	Rate Per Day	Number	Rate Per Day	Number	Rate Per Day	Number	Rate Per Day
January	962	31.0	421	13.6	3	0.1	1,386	44.7
February	663	23.7	398	14.2	2	0.1	1,063	38.0
March	741	23.9	443	14.3	3	0.1	1,187	38.3
April	733	24.4	494	16.5	4	0.1	1,231	41.0
May	767	24.7	520	16.8	4	0.1	1,291	41.6
June	660	22.0	451	15.0	5	0.2	1,116	37.2
July	756	24.4	513	16.5	7	0.2	1,276	41.2
August	809	26.1	559	18.0	10	0.3	1,378	44.5
September	831	27.7	522	17.4	4	0.1	1,357	45.2
October	887	28.6	552	17.8	9	0.3	1,448	46.7
November	786	26.2	444	14.8	4	0.1	1,234	41.1
December	883	28.5	459	14.8	1	0.0	1,343	43.3
Total	9,478	26.0	5,776	15.8	56	0.2	15,310	41.9

The least number of total teenage driver crashes occurred on Sunday, and the largest number of total teenage driver crashes occurred on Friday (Figure 6.04 and Table 6.05). The largest number of injury teenage driver crashes occurred on Friday and the largest number of fatal teenage driver crashes occurred on Saturday.

Figure 6.04 Day of Week for Teenage Driver Crashes, Utah 2002



Note: The above graph is based on percentages for the different crash categories. To read the above graph, look at one category across the days of the week. For example, look at only the white bars (i.e. injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 6.05 Day of Week for Teenage Driver Crashes, Utah 2002

Day of Week	Teen Non-Injury Crashes		Teen Injury Crashes		Teen Fatal Crashes		Teen Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Sunday	544	5.7%	377	6.5%	6	10.7%	927	6.1%
Monday	1,342	14.2%	816	14.1%	7	12.5%	2,165	14.1%
Tuesday	1,456	15.4%	817	14.1%	2	3.6%	2,275	14.9%
Wednesday	1,299	13.7%	816	14.1%	4	7.1%	2,119	13.8%
Thursday	1,292	13.6%	783	13.6%	2	3.6%	2,077	13.6%
Friday	1,622	17.1%	951	16.5%	7	12.5%	2,580	16.9%
Saturday	1,166	12.3%	761	13.2%	10	17.9%	1,937	12.7%
Missing	757	8.0%	455	7.9%	18	32.1%	1,230	8.0%
Total	9,478	100.0%	5,776	100.0%	56	100.0%	15,310	100.0%

Teenage Driver Crash Violations and Contributing Factors

Almost half (47.7%) of all teenage drivers involved in a crash received a citation for a violation as compared to 33.6% of all drivers receiving citations in a crash. Table 6.06 shows that the leading teenage driver citations were "failure to yield right of way," "improper lookout," and "following too close" which were the top three citations for all drivers involved in a crash.

Table 6.06 Violations for Teenage Driver Crashes, Utah 2002

Violations	Teen Non-Injury Crashes		Teen Injury Crashes		Teen Fatal Crashes		Teen Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Failure to Yield Right of Way	1,385	20.9%	1,038	23.9%	0	0.0%	2,423	22.0%
Improper Lookout	1,287	19.4%	770	17.7%	0	0.0%	2,057	18.7%
Following Too Close	1,127	17.0%	659	15.2%	0	0.0%	1,786	16.2%
Other Non-Moving Violations	589	8.9%	381	8.8%	0	0.0%	970	8.8%
All Other Moving Violations	379	5.7%	256	5.9%	0	0.0%	635	5.8%
Negligent Collision	360	5.4%	207	4.8%	0	0.0%	567	5.2%
Speeding	312	4.7%	191	4.4%	0	0.0%	503	4.6%
Red Light	215	3.2%	270	6.2%	0	0.0%	485	4.4%
Improper Turn	244	3.7%	126	2.9%	0	0.0%	370	3.4%
Driving Under the Influence	103	1.6%	129	3.0%	3	60.0%	235	2.1%
Improper Lane Change	148	2.2%	54	1.2%	0	0.0%	202	1.8%
Stop Sign	86	1.3%	92	2.1%	0	0.0%	178	1.6%
Reckless Driving	66	1.0%	62	1.4%	0	0.0%	128	1.2%
Improper Backing	115	1.7%	11	0.3%	0	0.0%	126	1.1%
Hit and Run	79	1.2%	27	0.6%	0	0.0%	106	1.0%
Improper Passing	63	0.9%	23	0.5%	0	0.0%	86	0.8%
Wrong Side of Road	48	0.7%	32	0.7%	0	0.0%	80	0.7%
Improper Start and Stop	32	0.5%	19	0.4%	0	0.0%	51	0.5%
Wrong Way on One Way Street	3	0.0%	0	0.0%	0	0.0%	3	0.0%
Vehicle Homicide	0	0.0%	0	0.0%	2	40.0%	2	0.0%
Grand Total	6,641	100.0%	4,347	100.0%	5	100.0%	10,993	100.0%

Table 6.07 contains the contributing factors for teenage driver crashes. These factors were coded by the scene officers for each vehicle involved in the crash. The officer may record up to two different contributing factors. The leading factors for total crashes and injury crashes that involved teenage drivers were “improper lookout”, “failed to yield right of way”, and “following too closely.” “Improper lookout” was the leading factor in fatal teenage driver crashes. “Had been drinking,” “DUI,” and “under the influence of drugs” accounted for 3.1% of teenage driver crashes contributing factors, but 4.6% of the teenage driver fatal crashes.

Table 6.07 Contributing Factors of Teenage Driver Crashes, Utah 2002

Contributing Factors	Teen Non-Injury Crashes		Teen Injury Crashes		Teen Fatal Crashes		Teen Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Improper Lookout	2,414	24.5%	1,488	24.7%	10	23.3%	3,912	24.6%
Failed to Yield the Right of Way	1,406	14.3%	839	13.9%	7	16.3%	2,252	14.2%
Following Too Closely	1,277	13.0%	752	12.5%	6	14.0%	2,035	12.8%
Speed Too Fast	1,121	11.4%	657	10.9%	5	11.6%	1,783	11.2%
Other Improper Driving	847	8.6%	535	8.9%	1	2.3%	1,383	8.7%
Hit and Run	388	3.9%	227	3.8%	0	0.0%	615	3.9%
Improper Turn	341	3.5%	219	3.6%	2	4.7%	562	3.5%
Disregarded Traffic Signal	325	3.3%	204	3.4%	2	4.7%	531	3.3%
Driving Under the Influence	223	2.3%	117	1.9%	1	2.3%	341	2.1%
Non-Contact Vehicle Involved	185	1.9%	120	2.0%	1	2.3%	306	1.9%
Improper Overtaking	160	1.6%	103	1.7%	1	2.3%	264	1.7%
Drove Left of Center	144	1.5%	105	1.7%	1	2.3%	250	1.6%
Asleep	130	1.3%	75	1.2%	2	4.7%	207	1.3%
Improper Backing	122	1.2%	78	1.3%	0	0.0%	200	1.3%
Passed Stop Sign	85	0.9%	48	0.8%	0	0.0%	133	0.8%
Fatigued	70	0.7%	50	0.8%	1	2.3%	121	0.8%
Other Defective Condition	68	0.7%	49	0.8%	0	0.0%	117	0.7%
Had Been Drinking	69	0.7%	40	0.7%	1	2.3%	110	0.7%
Cargo Loss or Shift	45	0.5%	34	0.6%	1	2.3%	80	0.5%
Tires Defective	41	0.4%	35	0.6%	0	0.0%	76	0.5%
Brakes Defective	46	0.5%	20	0.3%	0	0.0%	66	0.4%
Improper Parking	46	0.5%	19	0.3%	0	0.0%	65	0.4%
Non-collision Fire	23	0.2%	18	0.3%	0	0.0%	41	0.3%
Tires Defective	41	0.4%	35	0.6%	0	0.0%	76	0.5%
Improper Parking	46	0.5%	19	0.3%	0	0.0%	65	0.4%
Improper Backing	122	1.2%	78	1.3%	0	0.0%	200	1.3%
Vehicle Rolling in Traffic Lane	25	0.3%	14	0.2%	0	0.0%	39	0.2%
Asleep	130	1.3%	75	1.2%	2	4.7%	207	1.3%
Down Hill Runaway	27	0.3%	24	0.4%	1	2.3%	52	0.3%
Cargo Loss or Shift	45	0.5%	34	0.6%	1	2.3%	80	0.5%
Steering Mechanism Defective	7	0.1%	4	0.1%	0	0.0%	11	0.1%
Towed Vehicle	10	0.1%	11	0.2%	0	0.0%	21	0.1%
Eyesight Defective Uncorrected	2	0.0%	3	0.0%	0	0.0%	5	0.0%
Fatigued	70	0.7%	50	0.8%	1	2.3%	121	0.8%
Stolen	9	0.1%	13	0.2%	0	0.0%	22	0.1%
Jackknife	16	0.2%	15	0.2%	0	0.0%	31	0.2%
Healights Glaring	9	0.1%	3	0.0%	0	0.0%	12	0.1%
Separation of Units	14	0.1%	11	0.2%	0	0.0%	25	0.2%
Sick or ill	38	0.4%	21	0.3%	0	0.0%	59	0.4%
Wrong Way on One Way Street	4	0.0%	2	0.0%	0	0.0%	6	0.0%
Explosion or Fire	9	0.1%	2	0.0%	0	0.0%	11	0.1%
Total	9,834	100.0%	6,018	100.0%	43	100.0%	15,895	100.0%

Teenage Driver Crash Characteristics

One third of the total teenage driver crashes (34.3%) and injury crashes (34.4%) were a rear-end collision (Table 6.08). Single vehicle rollover was the leading cause of teenage driver fatal crashes. Head-on crashes involving teenage drivers are dangerous; this collision type was over 13 times more likely to result in at least one fatality than other collision types. Single vehicle crashes involving teenage drivers were 14 times more likely to result in at least one fatality than other collision types.

Table 6.08 Collision Description of Teenage Driver Crashes, Utah 2002

Collision Description	Teen Non-Injury Crashes		Teen Injury Crashes		Teen Fatal Crashes		Teen Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Rear End	3,270	34.5%	1,987	34.4%	0	0.0%	5,257	34.3%
Broadside	2,355	24.8%	1,956	33.9%	10	17.9%	4,321	28.2%
Other	2,777	29.3%	835	14.5%	8	14.3%	3,620	23.6%
Side Swipe	701	7.4%	231	4.0%	6	10.7%	938	6.1%
Single Vehicle Rollover	217	2.3%	459	7.9%	24	42.9%	700	4.6%
Pedestrian/Bicyclist Crash	12	0.1%	184	3.2%	2	3.6%	198	1.3%
Single Vehicle Fixed Object	97	1.0%	40	0.7%	1	1.8%	138	0.9%
Head-on	39	0.4%	78	1.4%	5	8.9%	122	0.8%
Single Vehicle Other	10	0.1%	6	0.1%	0	0.0%	16	0.1%
Total	9,478	100.0%	5,776	100.0%	56	100.0%	15,310	100.0%

Teenage Driver Characteristics

Slightly more than half (53%) of teenage drivers involved in crashes were male. The majority of teenage drivers in a crash (94.3%) reported wearing a seatbelt.

Figure 6.05 Gender of Teenage Drivers Involved in Crashes, Utah 2002 (n=17,256)

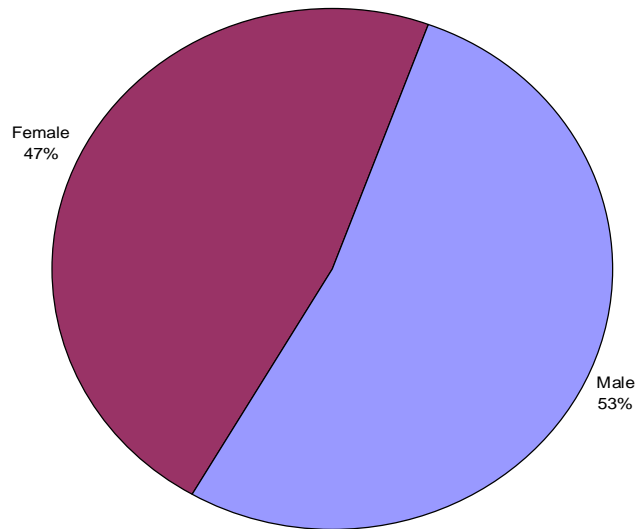
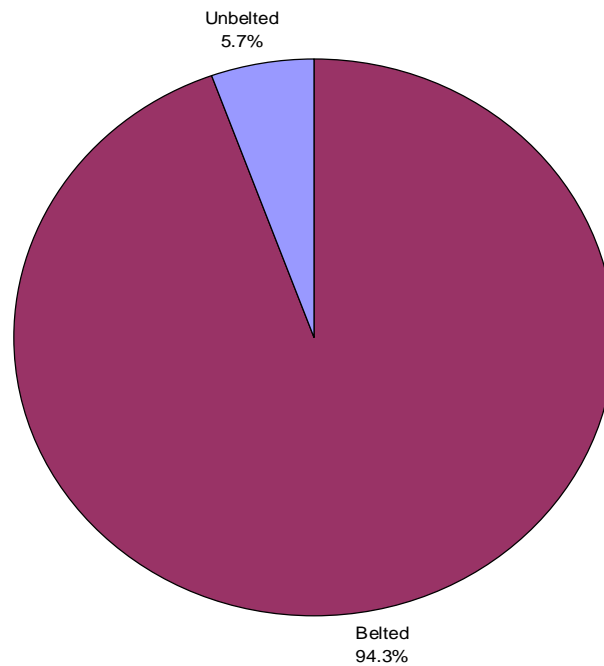


Figure 6.06 Seatbelt Use of Teenage Drivers Involved in Crashes, Utah 2002 (n=15,685)

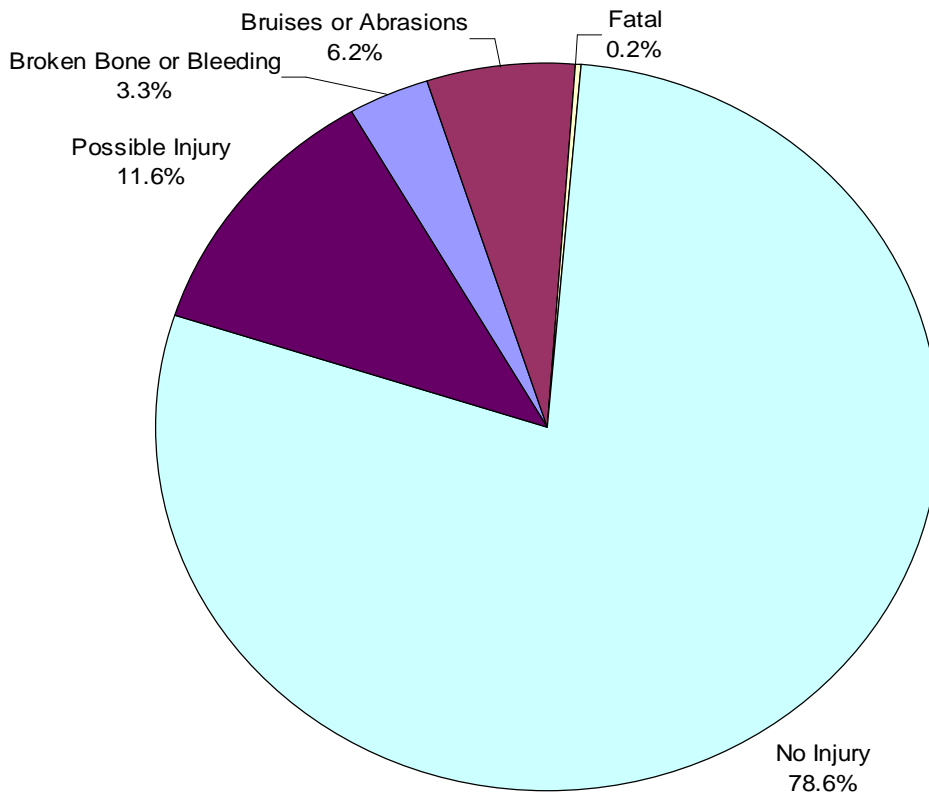


Note: Seatbelt use was not reported for motorcyclist and where usage was unknown (n=1,571).

Injury Severity of Occupants in Vehicles of Teenage Drivers

Figure 6.07 shows the injury severity of crash participants (including drivers) in a teenage driver's vehicle. The percentage of occupants who sustained an injury was 21.4%, similar to 21.9% for all motor vehicle crash participants (see Figure 2.03). The teenage driver occupants' fatality percentage (0.2%) was the same as the fatality percentage (0.2%) of all motor vehicle crash participants.

Figure 6.07 Injury Severity of Occupants (including drivers) in Vehicles of Teenage Drivers as Reported by Police, Utah 2002 (n=26,980)



Occupants in Vehicles of Teenage Drivers

Table 6.09 shows the number of occupants (including drivers) in a teenage drivers' vehicle by crash severity. In approximately two-thirds (63.6%) of total teenage driver crashes the driver was the only occupant in the vehicle. Crashes where the teenage driven vehicle contained 4 or more occupants were 5 times more likely to be fatal than crashes involving teenage driven vehicles with fewer occupants.

Figure 6.08 Number of Occupants (including drivers) in Teenage Drivers' Vehicle, Utah 2002

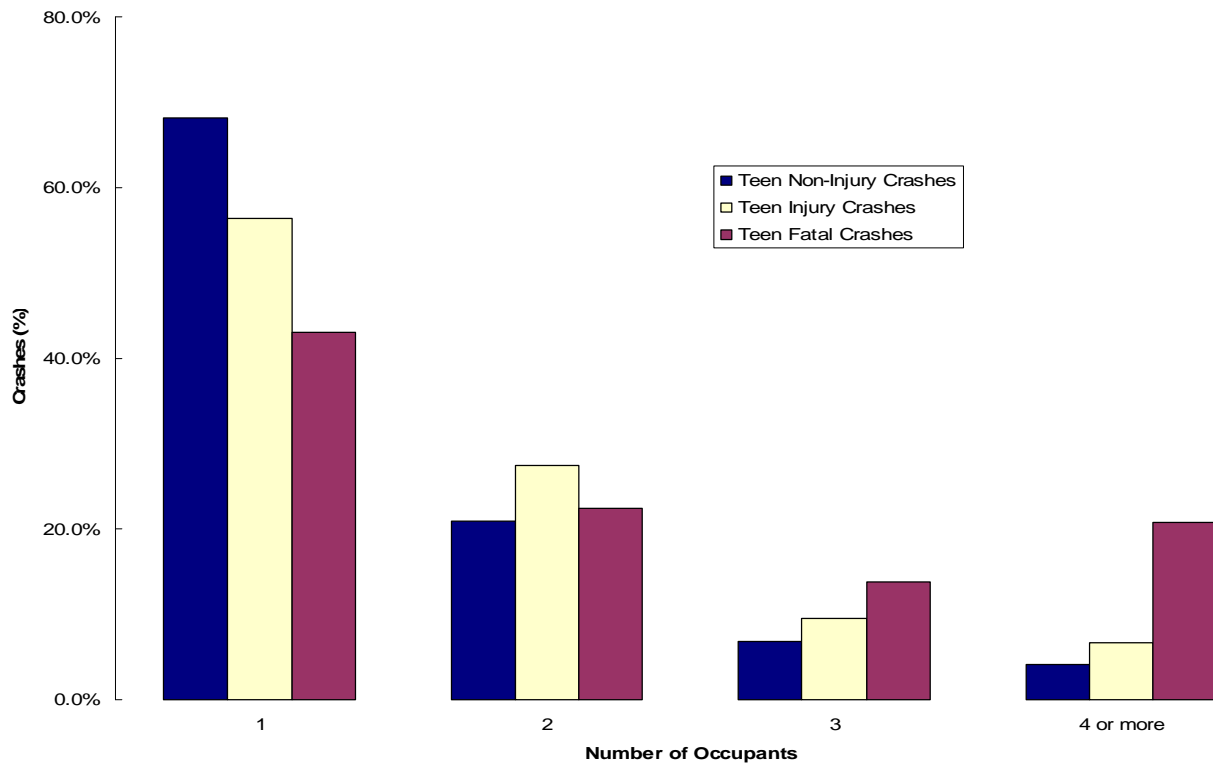


Table 6.09 Number of Occupants (including drivers) in Teenage Drivers' Vehicle, Utah 2002

Number of Occupants	Teen Non-Injury Crashes		Teen Injury Crashes		Teen Fatal Crashes		Teen Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1	7,262	68.2%	3,639	56.3%	25	43.1%	10,926	63.6%
2	2,230	20.9%	1,777	27.5%	13	22.4%	4,020	23.4%
3	730	6.9%	615	9.5%	8	13.8%	1,353	7.9%
4 or more	429	4.0%	432	6.7%	12	20.7%	873	5.1%
Total	10,651	100.0%	6,463	100.0%	58	100.0%	17,172	100.0%

Note: There may be more than one teenage driver involved in a crash.

The age and gender of crash participants (including drivers) in the teenage drivers' vehicles are shown in Table 6.10. The percentage of males and females involved in each crash severity was similar. Not surprisingly, most occupants in teenage driver crashes were between the ages of 15 to 19 years.

Table 6.10 Age and Gender of Occupants (including drivers) in Vehicles of Teenage Drivers by Injury Severity, Utah 2002

Age	Non-Injured Persons		Injured Persons		Fatalities		Total Persons									
	Male	Female	Male	Female	Male	Female	Male	Female								
	Number	Percent	Number	Percent	Number	Percent	Number	Percent								
00-04	116	1.0%	137	1.4%	19	0.7%	24	0.8%	0	0.0%	1	4.2%	135	1.0%	162	1.3%
05-09	67	0.6%	74	0.8%	36	1.4%	32	1.0%	0	0.0%	0	0.0%	103	0.7%	106	0.8%
10-14	348	3.0%	367	3.8%	128	5.1%	127	4.0%	1	2.8%	3	12.5%	477	3.4%	497	3.9%
15-19	10,261	89.2%	8,488	87.9%	2,098	82.8%	2,723	86.2%	31	86.1%	18	75.0%	12,390	88.0%	11,229	87.5%
20-24	343	3.0%	182	1.9%	113	4.5%	67	2.1%	1	2.8%	1	4.2%	457	3.2%	250	1.9%
25-29	60	0.5%	39	0.4%	26	1.0%	15	0.5%	0	0.0%	0	0.0%	86	0.6%	54	0.4%
30-34	23	0.2%	12	0.1%	12	0.5%	17	0.5%	1	2.8%	0	0.0%	36	0.3%	29	0.2%
35-39	15	0.1%	36	0.4%	9	0.4%	14	0.4%	1	2.8%	0	0.0%	25	0.2%	50	0.4%
40-44	37	0.3%	59	0.6%	18	0.7%	26	0.8%	0	0.0%	0	0.0%	55	0.4%	85	0.7%
45-49	19	0.2%	46	0.5%	15	0.6%	24	0.8%	0	0.0%	0	0.0%	34	0.2%	70	0.5%
50-54	7	0.1%	20	0.2%	11	0.4%	16	0.5%	0	0.0%	1	4.2%	18	0.1%	37	0.3%
55-59	6	0.1%	8	0.1%	2	0.1%	7	0.2%	1	2.8%	0	0.0%	9	0.1%	15	0.1%
60-64	4	0.0%	2	0.0%	2	0.1%	1	0.0%	0	0.0%	0	0.0%	6	0.0%	3	0.0%
65-69	1	0.0%	9	0.1%	2	0.1%	2	0.1%	0	0.0%	0	0.0%	3	0.0%	11	0.1%
70-74	6	0.1%	2	0.0%	3	0.1%	4	0.1%	0	0.0%	0	0.0%	9	0.1%	6	0.0%
75-79	1	0.0%	2	0.0%	1	0.0%	2	0.1%	0	0.0%	0	0.0%	2	0.0%	4	0.0%
80-84	1	0.0%	0	0.0%	1	0.0%	1	0.0%	0	0.0%	0	0.0%	2	0.0%	1	0.0%
85+	1	0.0%	1	0.0%	1	0.0%	1	0.0%	0	0.0%	0	0.0%	2	0.0%	2	0.0%
Unknown	191	1.7%	171	1.8%	37	1.5%	56	1.8%	0	0.0%	0	0.0%	228	1.6%	227	1.8%
Grand Total	11,507	100.0%	9,655	100.0%	2,534	100.0%	3,159	100.0%	36	100.0%	24	100.0%	14,077	100.0%	12,838	100.0%

Note: There were persons involved in teenage driver crashes that did not have age and gender information recorded.

Alcohol and Other Drugs:

Of the 56 fatal teenage driver crashes, 10 involved a teenage driver impaired by alcohol or other drugs.

Graduated Licensing Law

In 1998 a graduated licensing law was enacted in Utah to address the concern of teenage driving and crashes. Graduated licensing regulations are in place for new drivers under the age of 18 years and not previously licensed in another state. First-time teenage drivers who apply for a drivers license in Utah must complete the following three steps to obtain a drivers license.

- ⇒ **Step 1.** Obtain an instruction permit, which allows driving with a certified driving instructor, complete a driver education course and pass a written exam.
- ⇒ **Step 2.** After reaching age 15 years 9 months, obtain a practice permit which requires driving with a parent, guardian, or licensed over-21-year-old spouse and complete 30 hours of behind-the-wheel driving (at least 10 hours after dark).
- ⇒ **Step 3.** Complete a driving test (or tests) and obtain a provisional (under 21 years) "D" (passenger vehicle), or "M" (passenger vehicle plus motorcycle) license. The provisional license shows "under 21" and has a distinctive color, and allows a lower threshold of points / citations before sanctioning compared to regular licenses.

Night Time Restrictions

Anyone under the age of 17 years may not drive from midnight to 5:00 a.m. except: 1) with an over-21-year-old licensed driver; 2) for employment, or going to or from employment; 3) going to or from a religious or a school activity; 4) in a supervised agricultural operation; or 5) in an emergency.

Passenger Restrictions

For the first six months of licensure, teenage drivers can only drive other teens if there is an over-21-year-old driver in the front seat of the vehicle. Teenage drivers can drive themselves or family members without this restriction.

Exceptions: Teenage drivers can drive teenage occupants to or from school, school activities, church activities, or agricultural work if he/she has a signed note from his/her legal guardian.

Seatbelt Restrictions

All occupants under the age of 19 years must be properly restrained in a motor vehicle. This is a primary law which means a person may be stopped by a law enforcement officer solely for that offense. If found in violation of this law, a person may be issued a citation and be subject to a fine of not more than \$45.

Section 7

2002 Alcohol and Other Drug-Related Crashes

Alcohol and Other Drug-Related Fatal Crashes and Fatalities 1993-2002.....	7.2
Alcohol and Other Drug-Related Crash Severity.....	7.3
Alcohol and Other Drug-Related Crashes by County.....	7.4
Alcohol and Other Drug-Related Crash Times	7.5
Impaired Drivers Involved in Alcohol and Other Drug-Related Crashes	7.8
Alcohol and Other Drug-Related Crash Participants Injury Severity	7.9
Blood Alcohol Concentration Levels of Drivers Involved in Fatal Alcohol-Related Crashes	7.10

TABLES

Table 7.01 Alcohol and Other Drug-Related Fatal Crashes and Fatalities, Utah 1993 - 2002
Table 7.02 Alcohol and Other Drug-Related Crashes by County, Utah 2002
Table 7.03 Hour of Alcohol and Other Drug-Related Crashes, Utah 2002
Table 7.04 Month of Alcohol and Other Drug-Related Crashes, Utah 2002
Table 7.05 Day of Week for Alcohol and Other Drug-Related Crashes, Utah 2002
Table 7.06 Gender and Age of Impaired Drivers Involved in Alcohol and Other Drug-Related Crashes, Utah 2002

FIGURES

Figure 7.01 Alcohol and Other Drug-Related Fatal Crashes, Utah 1993 - 2002
Figure 7.02 Severity of Alcohol and Other Drug-Related Crashes as Reported by Police, Utah 2002
Figure 7.03 Hour of Alcohol and Other Drug-Related Crashes, Utah 2002
Figure 7.04 Day of Week for Alcohol and Other Drug-Related Crashes, Utah 2002
Figure 7.05 Alcohol and Other Drug-Related Crash Participants Injury Severity as Reported by Police, Utah 2002
Figure 7.06 Blood Alcohol Concentration Levels of Drivers Involved in Fatal Alcohol-Related Crashes, Utah 2002

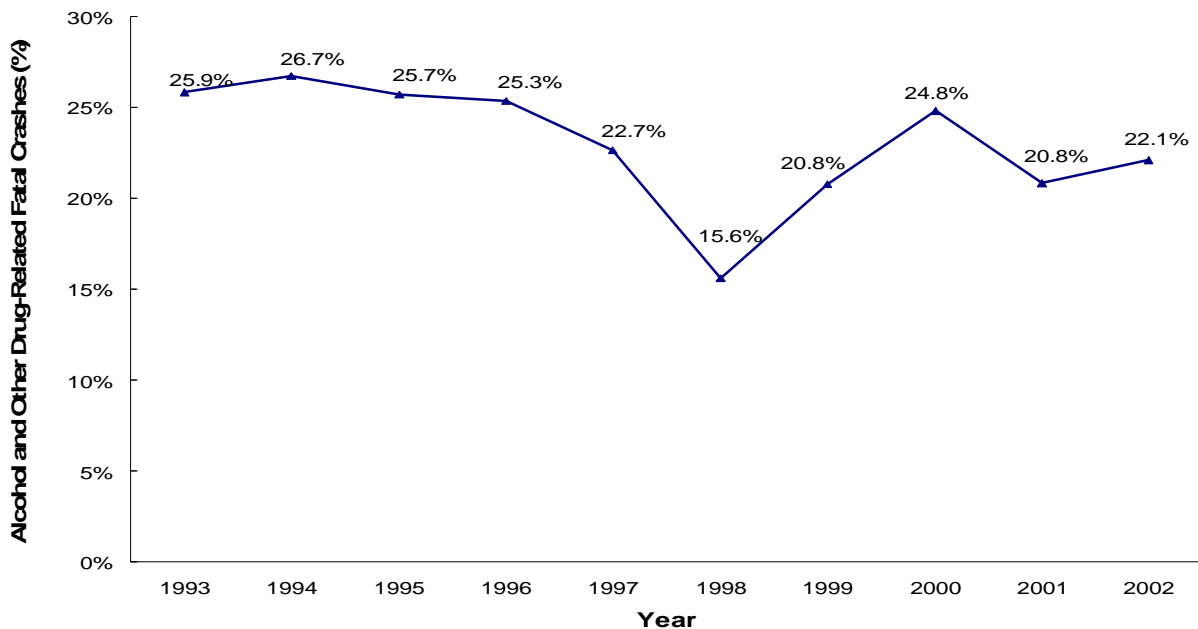
Alcohol and Other Drug-Related Fatal Crashes and Fatalities 1993-2002

For the past nine years, the percentage of alcohol and other drug-related fatal motor vehicle crashes and fatalities has remained fairly consistent at approximately a quarter of all fatal crashes. The percentage of alcohol and other drug-related fatal motor vehicle crashes dropped to an all time low of 15.6% in 1998 (Table 7.01 and Figure 7.01). In 2002 there was a 13% increase in fatal alcohol and other drug-related crashes and a 18% increase in crash fatalities from the previous year.

Table 7.01 Alcohol and Other Drug-Related (A/D) Fatal Crashes and Fatalities, Utah 1993 - 2002

Year	Fatal Crashes			Fatalities		
	Total Number	Number A/D	Percentage A/D	Total Number	Number A/D	Percentage A/D
1993	263	68	25.9%	303	74	24.4%
1994	303	81	26.7%	343	94	27.4%
1995	284	73	25.7%	325	84	25.8%
1996	292	74	25.3%	328	86	26.2%
1997	309	70	22.7%	366	88	24.0%
1998	308	48	15.6%	350	49	14.0%
1999	318	66	20.8%	360	72	20.0%
2000	318	79	24.8%	373	90	24.1%
2001	259	54	20.8%	292	61	20.9%
2002	276	61	22.1%	329	72	21.9%

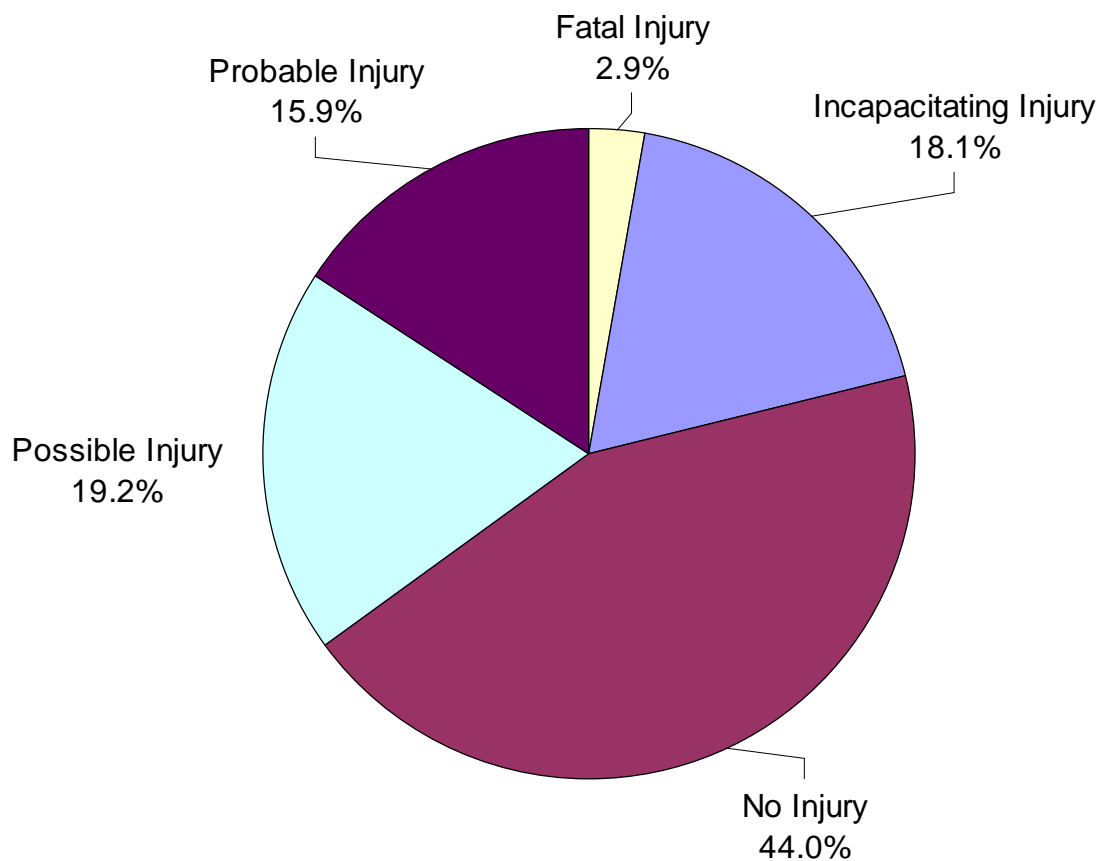
Figure 7.01 Alcohol and Other Drug-Related Fatal Crashes, Utah 1993 - 2002



Alcohol and Other Drug-Related Crash Severity

Over half (56%) of alcohol and other drug-related crashes (Figure 7.02) resulted in at least one injury compared to 37.2% of all motor vehicle crashes (see Figure 1.03). The percentage of alcohol and drug-related crashes that resulted in a fatality was 2.9% compared to 0.5% of all motor vehicle crashes.

Figure 7.02 Severity of Alcohol and Other Drug-Related Crashes as Reported by Police, Utah 2002 (n=2,102)



Alcohol and Other Drug-Related Crashes by County

Table 7.02 shows the number of alcohol and other drug-related crashes by county. The leading counties for total alcohol and other drug-related crashes and injury alcohol and other drug-related crashes per million vehicle miles traveled were Daggett, Wayne, and Rich. The highest rates for fatal alcohol and other drug-related crashes per miles traveled were in Wayne, Kane, and Garfield Counties. Daggett and Wayne counties had the highest rates for non-injury crashes.

Table 7.02 Alcohol and Other Drug-Related (A/D) Crashes by County, Utah 2002

County	A/D Non-Injury Crashes			A/D Injury Crashes			A/D Fatal Crashes			A/D Total Crashes		
	Number	Rate per 10,000 Population	Rate per 100 MVMT	Number	Rate per 10,000 Population	Rate per 100 MVMT	Number	Rate per 100,000 Population	per 1,000 MVMT	Number	Rate per 10,000 Population	Rate per 100 MVMT
Beaver	1	1.6	0.4	3	4.8	1.2	0	0.0	0.0	4	6.4	1.7
Box Elder	13	3.0	1.3	24	5.5	2.5	0	0.0	0.0	37	8.5	3.8
Cache	22	2.3	2.7	21	2.2	2.5	3	3.1	3.6	46	4.8	5.6
Carbon	5	2.5	1.4	13	6.5	3.7	2	10.0	5.8	20	10.0	5.8
Daggett	2	21.0	7.3	4	42.0	14.6	0	0.0	0.0	6	63.0	21.8
Davis	55	2.2	2.4	58	2.3	2.5	2	0.8	0.9	115	4.6	5.0
Duchesne	3	2.0	1.5	11	7.4	5.4	0	0.0	0.0	14	9.5	6.9
Emery	9	8.5	2.4	10	9.5	2.7	0	0.0	0.0	19	18.0	5.1
Garfield	5	10.7	3.6	6	12.8	4.4	2	42.8	14.5	13	27.8	9.4
Grand	15	17.7	5.2	15	17.7	5.2	1	11.8	3.4	31	36.5	10.6
Iron	13	3.8	2.1	15	4.3	2.4	2	5.8	3.2	30	8.7	4.8
Juab	10	11.3	2.5	6	6.8	1.5	3	34.0	7.6	19	21.5	4.8
Kane	2	3.2	1.5	1	1.6	0.8	2	32.1	15.2	5	8.0	3.8
Millard	5	3.9	1.1	10	7.8	2.3	0	0.0	0.0	15	11.8	3.4
Morgan	2	2.8	1.6	7	9.7	5.5	1	13.9	7.9	10	13.9	7.9
Piute	0	0.0	0.0	2	14.2	6.1	0	0.0	0.0	2	14.2	6.1
Rich	0	0.0	0.0	6	30.3	13.8	0	0.0	0.0	6	30.3	13.8
Salt Lake	446	4.8	5.6	501	5.4	6.3	12	1.3	1.5	959	10.4	12.0
San Juan	4	2.8	1.4	20	14.0	6.8	2	14.0	6.8	26	18.2	8.8
Sanpete	5	2.1	2.2	15	6.4	6.5	2	8.5	8.7	22	9.3	9.6
Sevier	12	6.3	2.9	9	4.7	2.2	0	0.0	0.0	21	11.0	5.1
Summit	22	6.9	3.2	22	6.9	3.2	1	3.1	1.5	45	14.1	6.6
Tooele	27	5.9	3.3	48	10.5	5.9	10	21.9	12.3	85	18.6	10.5
Uintah	13	4.9	4.5	21	8.0	7.2	2	7.6	6.9	36	13.7	12.4
Utah	106	2.7	3.2	113	2.9	3.4	3	0.8	0.9	222	5.7	6.6
Wasatch	8	4.8	3.0	20	12.0	7.5	0	0.0	0.0	28	16.9	10.6
Washington	24	2.4	2.5	34	3.4	3.5	5	5.1	5.2	63	6.4	6.5
Wayne	3	11.6	7.1	5	19.3	11.8	1	38.7	23.5	9	34.8	21.2
Weber	92	4.6	5.8	97	4.9	6.1	5	2.5	3.1	194	9.7	12.2
Statewide	924	4.0	3.8	1,117	4.8	4.6	61	2.6	2.5	2,102	9.1	8.6

*MVMT—million vehicle miles traveled

Alcohol and Other Drug-Related Crash Times

Table 7.03 and Figure 7.03 show that the total alcohol and other drug-related crashes and injury crashes followed the same time pattern, peaking in late evening and early morning hours (10 p.m. to 1 a.m.). Fatal alcohol and other drug-related crashes followed a similar pattern; these crashes peaked 11 p.m. to 1 a.m.

Table 7.03 Hour of Alcohol and Other Drug-Related (A/D) Crashes, Utah 2002

Hour	A/D Non Injury Crashes		A/D Injury Crashes		A/D Fatal Crashes		A/D Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
12 a.m.	57	6.2%	80	7.2%	6	9.8%	143	6.8%
1 a.m.	83	9.0%	91	8.1%	4	6.6%	178	8.5%
2 a.m.	50	5.4%	65	5.8%	0	0.0%	115	5.5%
3 a.m.	31	3.4%	45	4.0%	1	1.6%	77	3.7%
4 a.m.	39	4.2%	23	2.1%	2	3.3%	64	3.0%
5 a.m.	12	1.3%	17	1.5%	2	3.3%	31	1.5%
6 a.m.	17	1.8%	22	2.0%	2	3.3%	41	2.0%
7 a.m.	14	1.5%	23	2.1%	3	4.9%	40	1.9%
8 a.m.	18	1.9%	20	1.8%	0	0.0%	38	1.8%
9 a.m.	14	1.5%	15	1.3%	1	1.6%	30	1.4%
10 a.m.	12	1.3%	17	1.5%	1	1.6%	30	1.4%
11 a.m.	16	1.7%	25	2.2%	2	3.3%	43	2.0%
12 p.m.	11	1.2%	25	2.2%	2	3.3%	38	1.8%
1 p.m.	28	3.0%	26	2.3%	1	1.6%	55	2.6%
2 p.m.	25	2.7%	29	2.6%	0	0.0%	54	2.6%
3 p.m.	32	3.5%	34	3.0%	2	3.3%	68	3.2%
4 p.m.	39	4.2%	46	4.1%	5	8.2%	90	4.3%
5 p.m.	56	6.1%	69	6.2%	2	3.3%	127	6.0%
6 p.m.	41	4.4%	66	5.9%	3	4.9%	110	5.2%
7 p.m.	51	5.5%	62	5.6%	4	6.6%	117	5.6%
8 p.m.	62	6.7%	79	7.1%	3	4.9%	144	6.9%
9 p.m.	73	7.9%	70	6.3%	4	6.6%	147	7.0%
10 p.m.	73	7.9%	81	7.3%	4	6.6%	158	7.5%
11 p.m.	70	7.6%	87	7.8%	6	9.8%	163	7.8%
Missing	0	0.0%	0	0.0%	1	1.6%	1	0.0%
Grand Total	924	100.0%	1,117	100.0%	61	100.0%	2,102	100.0%

Figure 7.03 Hour of Alcohol and Other Drug-Related (A/D) Crashes, Utah 2002 (See Table 7.03 for values)

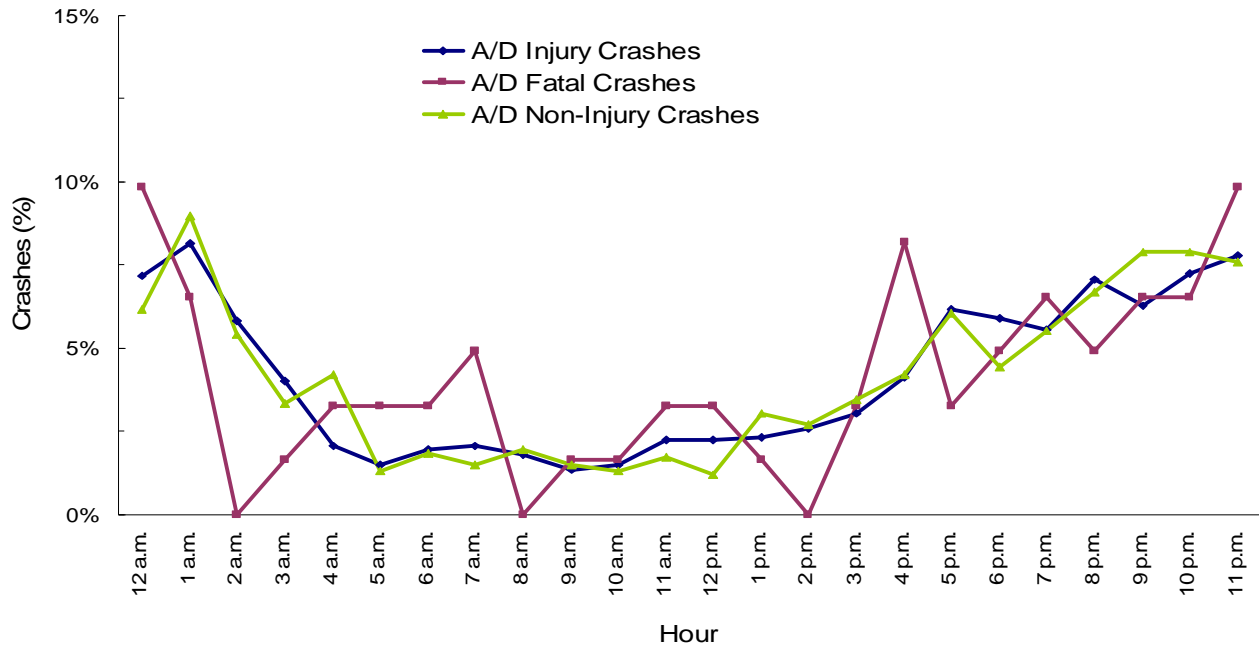


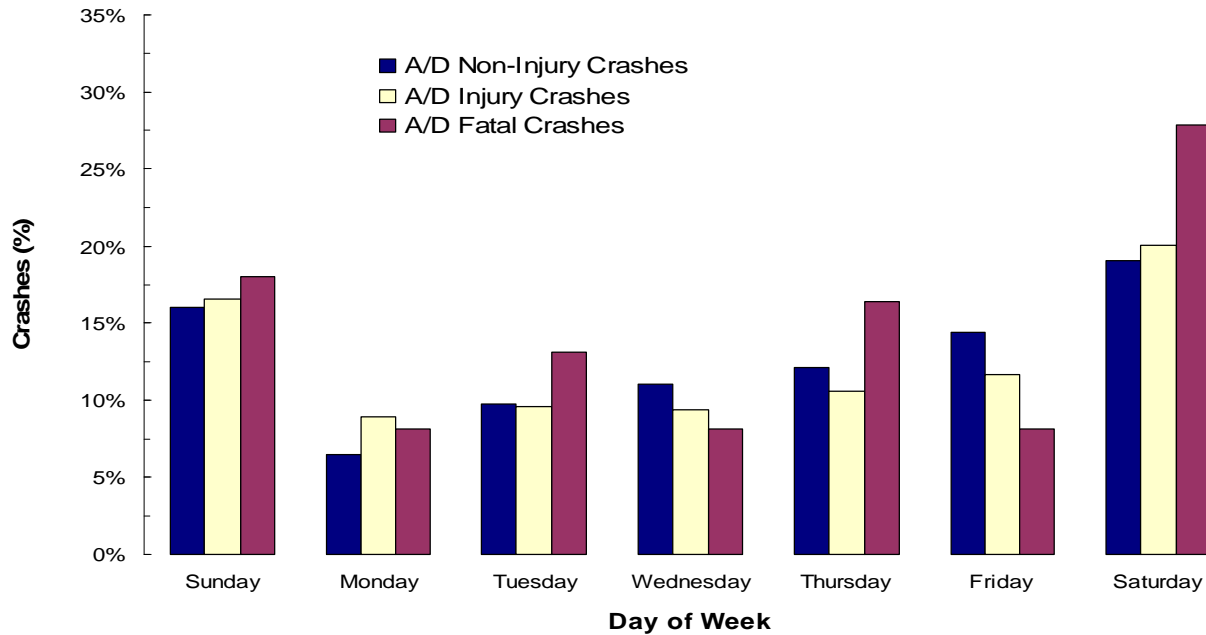
Table 7.04 shows the number and rate per day of alcohol and other drug-related crashes for each month. The rates remained similar from month to month. The highest percentage of total alcohol and other drug-related total crashes, and injury crashes occurred in July. The highest percentage of fatal alcohol and other drug-related crashes occurred in October.

Table 7.04 Month of Alcohol and Other Drug-Related (A/D) Crashes, Utah 2002

Month	A/D Non-Injury Crashes		A/D Injury Crashes		A/D Fatal Crashes		A/D Total Crashes	
	Number	Rate per Day	Number	Rate per Day	Number	Rate per Day	Number	Rate per Day
January	81	2.61	87	2.81	3	0.10	171	5.52
February	60	2.14	78	2.79	4	0.14	142	5.07
March	82	2.65	90	2.90	3	0.10	175	5.65
April	45	1.50	88	2.93	3	0.10	136	4.53
May	88	2.84	86	2.77	6	0.19	180	5.81
June	68	2.27	94	3.13	4	0.13	166	5.53
July	85	2.74	136	4.39	6	0.19	227	7.32
August	94	3.03	104	3.35	7	0.23	205	6.61
September	71	2.37	114	3.80	3	0.10	188	6.27
October	91	2.94	85	2.74	10	0.32	186	6.00
November	73	2.43	75	2.50	6	0.20	154	5.13
December	86	2.77	80	2.58	6	0.19	172	5.55
Grand Total	924	2.53	1,117	3.06	61	0.17	2,102	5.76

Figure 7.04 and Table 7.05 show that almost one-fifth of the total alcohol and other drug-related injury crashes (19.8%) and alcohol and drug-related injury crashes (20.1%) occurred on Saturday. The largest percentage for fatal alcohol and other drug-related crashes (27.9%) also occurred on Saturday.

Figure 7.04 Day of Week for Alcohol and Other Drug-Related (A/D) Crashes, Utah 2002



Note: The above graph is based on percentages for the different crash categories. To read the above graph, look at one category across the days of the week. For example, look at only the white bars (i.e. alcohol and other drug-related injury crashes) from day to day. Do not compare the heights of the different crash categories for a specific day.

Table 7.05 Day of Week for Alcohol and Other Drug-Related (A/D) Crashes, Utah 2002

Day of Week	A/D Non-Injury Crashes		A/D Injury Crashes		A/D Fatal Crashes		A/D Total Crashes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Sunday	148	16.0%	185	16.6%	11	18.0%	344	16.4%
Monday	60	6.5%	100	9.0%	5	8.2%	165	7.8%
Tuesday	90	9.7%	107	9.6%	8	13.1%	205	9.8%
Wednesday	102	11.0%	105	9.4%	5	8.2%	212	10.1%
Thursday	112	12.1%	118	10.6%	10	16.4%	240	11.4%
Friday	133	14.4%	130	11.6%	5	8.2%	268	12.7%
Saturday	176	19.0%	224	20.1%	17	27.9%	417	19.8%
Missing	103	11.1%	148	13.2%	0	0.0%	251	11.9%
Grand Total	924	100.0%	1,117	100.0%	61	100.0%	2,102	100.0%

Impaired Drivers Involved in Alcohol and Other Drug-Related Crashes

Male drivers were involved in almost three-quarters (73.2%) of alcohol and other drug-related crashes (Table 7.06). The largest number of total alcohol and other drug-related total crashes and injury crashes involved male drivers in the age range of 20 to 24 years (22.6%). This age group also represented the largest number of female drivers (20.2%) involved in alcohol and other drug-related total crashes. Female drivers in ages 20 to 24 years and 60 to 64 years (28.6%) represented the greatest number of drivers involved in fatal alcohol and other drug-related crashes. Of the impaired drivers, 321 (10.4%) were under the age of 21 years, and 83 (2.7%) were under the age of 18 years.

Table 7.06 Gender and Age of Impaired Drivers Involved in Alcohol and Other Drug-Related (A/D) Crashes, Utah 2002

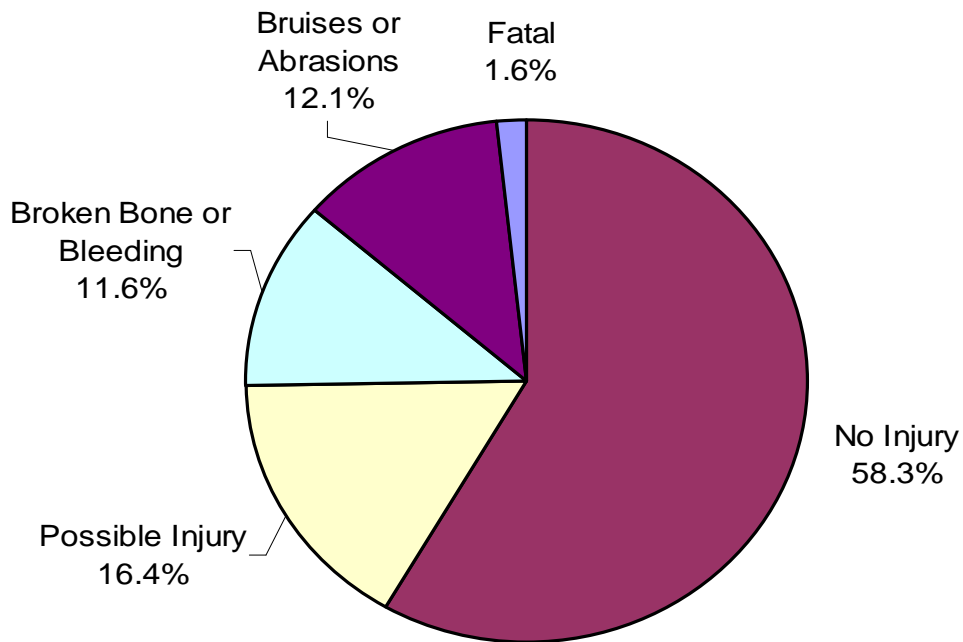
Age	A/D Non-Injury Crashes				A/D Injury Crashes				A/D Fatal Crashes				A/D Total Crashes			
	Male Drivers		Female Drivers		Male Drivers		Female Drivers		Male Drivers		Female Drivers		Male Drivers		Female Drivers	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<15	1	0.1%	2	0.4%	5	0.6%	1	0.3%	0	0.0%	0	0.0%	6	0.3%	3	0.4%
15-19	136	10.0%	69	14.4%	94	11.2%	43	12.6%	9	16.7%	1	14.3%	239	10.6%	113	13.7%
20-24	301	22.2%	93	19.5%	197	23.4%	72	21.2%	12	22.2%	2	28.6%	510	22.6%	167	20.2%
25-29	202	14.9%	51	10.7%	121	14.4%	45	13.2%	12	22.2%	1	14.3%	335	14.9%	97	11.8%
30-34	142	10.5%	47	9.8%	90	10.7%	42	12.4%	3	5.6%	0	0.0%	235	10.4%	89	10.8%
35-39	128	9.4%	66	13.8%	78	9.3%	40	11.8%	3	5.6%	1	14.3%	209	9.3%	107	13.0%
40-44	143	10.5%	52	10.9%	91	10.8%	43	12.6%	6	11.1%	0	0.0%	240	10.7%	95	11.5%
45-49	105	7.7%	38	7.9%	67	7.9%	23	6.8%	4	7.4%	0	0.0%	176	7.8%	61	7.4%
50-54	69	5.1%	31	6.5%	45	5.3%	10	2.9%	3	5.6%	0	0.0%	117	5.2%	41	5.0%
55-59	43	3.2%	8	1.7%	22	2.6%	6	1.8%	0	0.0%	0	0.0%	65	2.9%	14	1.7%
60-64	31	2.3%	8	1.7%	6	0.7%	7	2.1%	1	1.9%	2	28.6%	38	1.7%	17	2.1%
65-69	13	1.0%	6	1.3%	7	0.8%	5	1.5%	0	0.0%	0	0.0%	20	0.9%	11	1.3%
70-74	8	0.6%	2	0.4%	8	0.9%	0	0.0%	1	1.9%	0	0.0%	17	0.8%	2	0.2%
75-79	4	0.3%	3	0.6%	5	0.6%	0	0.0%	0	0.0%	0	0.0%	9	0.4%	3	0.4%
80-84	1	0.1%	1	0.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.0%	1	0.1%
85+	2	0.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	0.1%	0	0.0%
Unknown	25	1.8%	1	0.2%	7	0.8%	3	0.9%	0	0.0%	0	0.0%	32	1.4%	4	0.5%
Grand Total	1,356	100.0%	478	100.0%	843	100.0%	340	100.0%	54	100.0%	7	100.0%	2,253	100.0%	825	100.0%

Note: There were alcohol and other drug-related crashes that involved two impaired drivers, and gender or age was missing for several of the impaired drivers. There were 2 alcohol or other drug impaired pedestrians involved in crashes. The information about the drivers involved in the alcohol or other drug impaired pedestrian crashes is not included in the above table.

Alcohol and Other Drug-Related Crash Participants Injury Severity

Alcohol and other drug-related crash participants sustained a higher percentage (41.7%) of injury (Figure 7.05) compared to 21.9% for all motor vehicle crash participants (see Figure 2.03). In addition, a higher percentage of the alcohol and other drug-related crash participants died (1.6%), compared to all motor vehicle crash participants (0.2%).

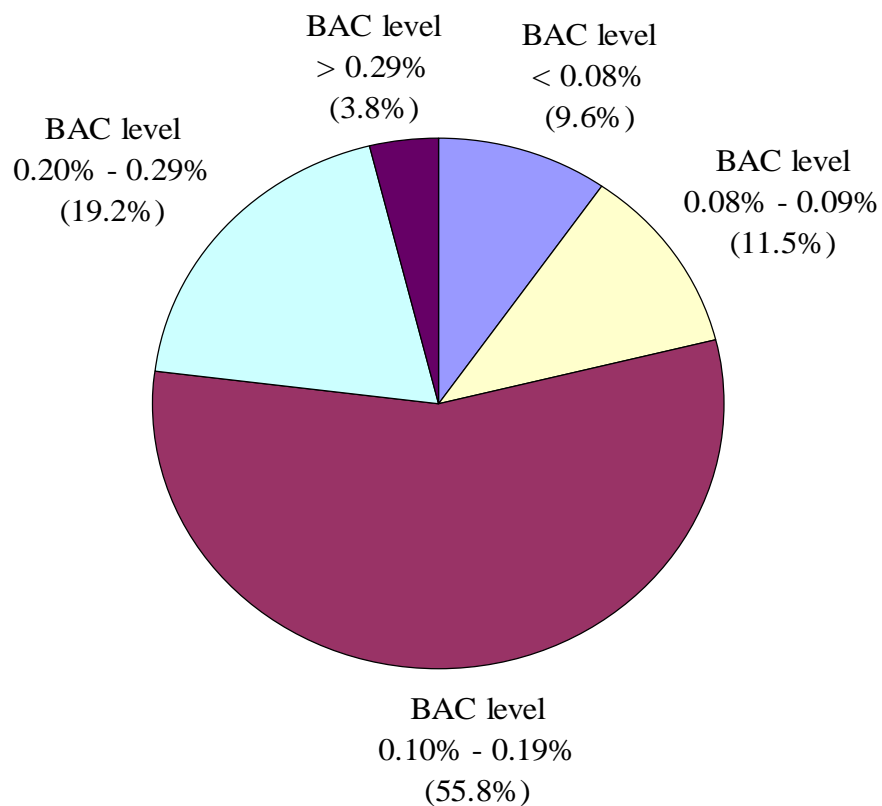
Figure 7.05 Alcohol and Other Drug-Related Crash Participants Injury Severity as Reported by Police, Utah 2002 (n=4,201)



Blood Alcohol Concentration Levels of Drivers Involved in Fatal Alcohol-Related Crashes

Figure 7.06 shows the blood alcohol concentration (BAC) levels of drivers involved in fatal alcohol-related crashes. The majority (90.4%) of drivers had blood alcohol levels at or above the legal limit of 0.08%. In fact, 23.0% of the fatal alcohol-related crashes involved a driver with a blood alcohol concentration level over 0.20%.

Figure 7.06 Blood Alcohol Concentration (BAC) Levels of Drivers Involved in Fatal Alcohol-Related Crashes, Utah 2002 (n=52)



Section 8

2002 Speed-Related Crashes

Speed-Related Crashes 1993 - 2002.....	8.2
Speed-Related Crash Severity	8.3
Speed-Related Crashes by County	8.4
Drivers Involved in Speed-Related Crashes.....	8.5
Speed-Related Crash Participants Injury Severity	8.6

TABLES

Table 8.01 Speed-Related Crashes, Utah 1993 - 2002

Table 8.02 Speed-Related Crashes by County, Utah 2002

Table 8.03 Gender and Age of Drivers Involved in Speed-Related Crashes, Utah 2002

FIGURES

Figure 8.01 Speed-Related Crashes, Utah 1993 - 2002

Figure 8.02 Severity of Speed-Related Crashes as Reported by Police, Utah 2002

Figure 8.04 Speed-Related Crash Participants Injury Severity as Reported by Police, Utah 2002

Note:

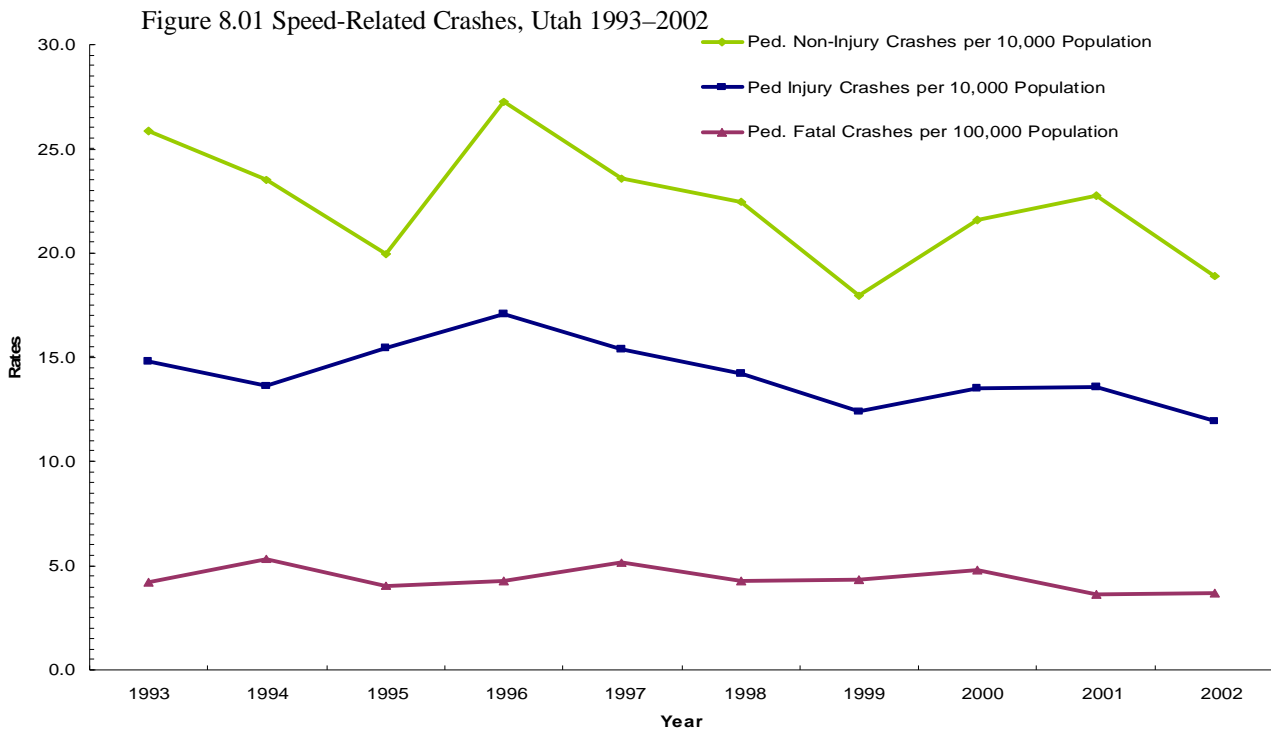
A crash was defined as speed-related if a driver was cited for “speeding” or if “speed to fast” was marked as a contributing factor.

Speed-Related Crashes 1993 - 2002

For the past nine years, the speed-related injury crash rate per million vehicle miles traveled has remained fairly constant, while the trends for total crashes and fatal crashes varied from year to year (Table 8.01 and Figure 8.01). A crash was defined as speed-related if a driver was cited for "speeding" or if "speed to fast" was marked as a contributing factor. In 2002, total speed-related crashes decreased 10.9% from 2001. However, the number of fatal speed-related crashes increased by 7.5% from 2001.

Table 8.01 Speed-Related (S-R) Crashes, Utah 1993-2002

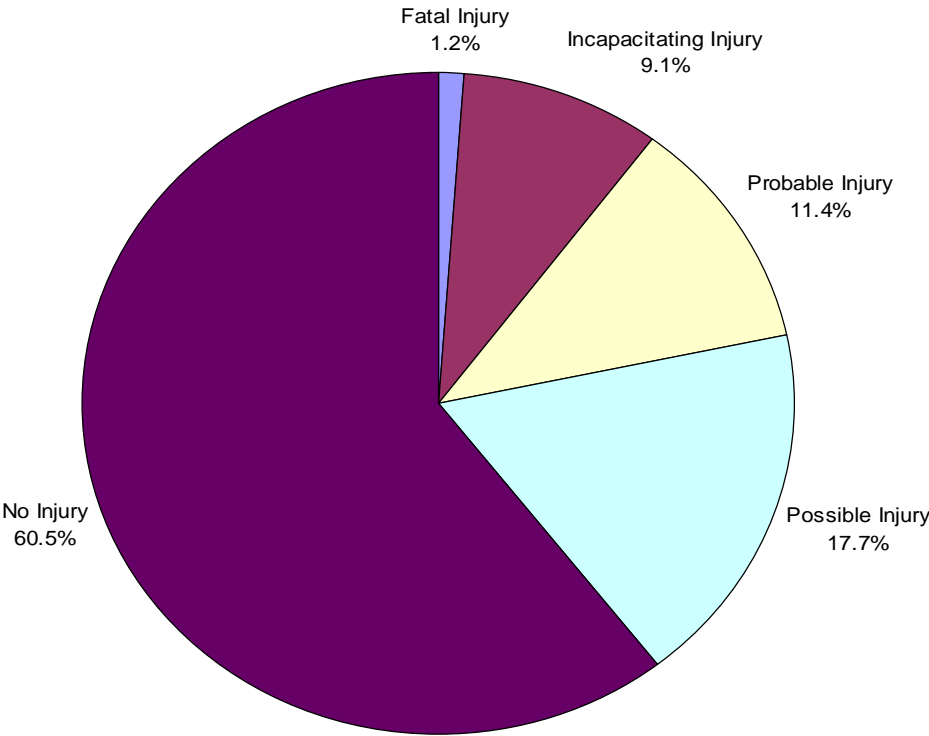
Year	S-R Non-Injury Crashes Rate per 10,000		S-R Injury Crashes Rate per 10,000		S-R Fatal Crashes Rate per 100,000		S-R Total Crashes Rate per 10,000	
	Number	Population	Number	Population	Number	Population	Number	Population
1993	4,889	25.9	2,796	14.8	80	4.2	7,765	41.1
1994	4,582	23.5	2,658	13.7	104	5.3	7,344	37.7
1995	3,980	19.9	2,912	15.4	80	4.0	6,972	34.9
1996	5,565	27.2	3,322	17.1	87	4.3	8,974	43.9
1997	4,823	23.6	3,151	15.4	105	5.1	8,079	39.5
1998	4,717	22.5	2,981	14.2	90	4.3	7,788	37.1
1999	3,836	18.0	2,652	12.4	92	4.3	6,580	30.8
2000	4,687	21.6	2,934	13.5	104	4.8	7,725	35.6
2001	5,037	22.7	3,003	13.6	80	3.6	8,120	36.6
2002	4,379	18.9	2,770	11.9	86	3.7	7,235	31.2



Speed-Related Crash Severity

Figure 8.02 shows the breakdown of speed-related crash severity. The percentage of speed-related crashes (39%) that resulted in an injury was similar to the percentage (37.2%) for all motor vehicle crashes (see Figure 1.03). The percentage of fatal speed-related crashes (1.0%) was higher than for all motor vehicle crashes (0.5%).

Figure 8.02 Severity of Speed-Related Crashes as Reported by Police, Utah 2002 (n=7,235)



Speed-Related Crashes

The rates of total speed-related crashes, injury crashes and fatal crashes for each county are shown in Table 8.02. There are two different rates given; one based on the miles traveled in the county, and another on the population of the county. The top three counties for total speed-related crashes based on million vehicle miles traveled were Wayne, Wasatch, and Sevier. The top three counties for speed-related injury crashes were Wayne, Sevier, and Iron. Sanpete, Rich, and Wasatch had the highest rates of speed-related fatal crashes per million vehicle miles traveled.

Table 8.02 Speed-Related (S-R) Crashes by County, Utah 2002

County	S-R Non-Injury Crashes			S-R Injury Crashes			S-R Fatal Crashes			S-R Total Crashes		
	Number	Rate per 100 MVMT	Rate per 10,000 Population	Number	Rate per 100 MVMT	Rate per 10,000 Population	Number	Rate per 1000 MVMT	Rate per 10,000 Population	Number	Rate per 100 MVMT	Rate per 10,000 Population
Beaver	49	20.3	78.6	40	16.5	64.2	0	0.0	0.0	89	36.8	142.8
Box Elder	137	14.1	31.4	100	10.3	22.9	2	2.1	0.5	239	24.6	54.7
Cache	218	26.3	22.8	114	13.8	11.9	2	2.4	0.2	334	40.3	35.0
Carbon	32	9.2	15.9	20	5.8	10.0	0	0.0	0.0	52	15.0	25.9
Daggett	7	25.5	73.5	3	10.9	31.5	0	0.0	0.0	10	36.4	105.0
Davis	288	12.5	11.5	173	7.5	6.9	5	2.2	0.2	466	20.2	18.6
Duchesne	22	10.9	14.9	21	10.4	14.2	0	0.0	0.0	43	21.2	29.1
Emery	48	12.9	45.5	41	11.0	38.9	2	5.4	1.9	91	24.5	86.3
Garfield	13	9.4	27.8	9	6.5	19.3	1	7.3	2.1	23	16.7	49.2
Grand	23	7.9	27.1	29	10.0	34.2	3	10.3	3.5	55	18.9	64.8
Iron	106	16.9	30.7	123	19.7	35.6	4	6.4	1.2	233	37.2	67.4
Juab	49	12.4	55.5	36	9.1	40.8	0	0.0	0.0	85	21.5	96.3
Kane	29	22.1	46.5	17	13.0	27.3	0	0.0	0.0	46	35.1	73.8
Millard	110	25.0	86.2	59	13.4	46.2	2	4.5	1.6	171	38.8	134.0
Morgan	29	22.8	40.2	13	10.2	18.0	1	7.9	1.4	43	33.8	59.7
Piute	3	9.2	21.3	3	9.2	21.3	0	0.0	0.0	6	18.3	42.7
Rich	8	18.4	40.4	8	18.4	40.4	1	23.0	5.1	17	39.0	85.9
Salt Lake	1,786	22.4	19.3	1,014	12.7	11.0	17	2.1	0.2	2,817	35.3	30.5
San Juan	20	7.5	14.0	25	9.4	17.5	3	11.3	2.1	48	18.1	33.6
Sanpete	37	16.1	15.7	30	13.1	12.7	6	26.2	2.5	73	31.8	31.0
Sevier	109	26.5	56.9	84	20.4	43.9	2	4.9	1.0	195	47.4	101.8
Summit	161	23.7	50.3	63	9.3	19.7	3	4.4	0.9	227	33.4	71.0
Tooele	92	11.3	20.2	66	8.1	14.5	7	8.6	1.5	165	20.3	36.2
Uintah	33	11.3	12.5	30	10.3	11.4	4	13.7	1.5	67	23.0	25.4
Utah	465	13.9	11.9	333	9.9	8.5	6	1.8	0.2	804	24.0	20.6
Wasatch	92	34.7	55.4	45	17.0	27.1	4	15.1	2.4	141	53.2	84.9
Washington	83	8.6	8.4	85	8.8	8.6	4	4.1	0.4	172	17.7	17.4
Wayne	14	33.0	54.2	12	28.2	46.4	0	0.0	0.0	26	61.2	100.6
Weber	315	19.8	15.8	174	10.9	8.7	7	4.4	0.4	496	31.1	24.8
Statewide	4,378	19.2	18.9	2,770	12.1	11.9	86	3.8	0.4	7,234	31.7	31.2

Drivers Involved in Speed-Related Crashes

The largest proportion of total speed-related crashes and injury crashes involved drivers in the 15 to 19 year old group for both males (22.94%) and females (26.33%) (Table 8.03). However, the largest proportion of fatal speed-related crashes for females included both 15-19 and 20-24 year old age group (25.0%) Fatal speed-related crashes for males were highest in the 15-19 year old group (20.0%).

Table 8.03 Gender and Age of Drivers Involved in Speed-Related (S-R) Crashes, Utah 2002

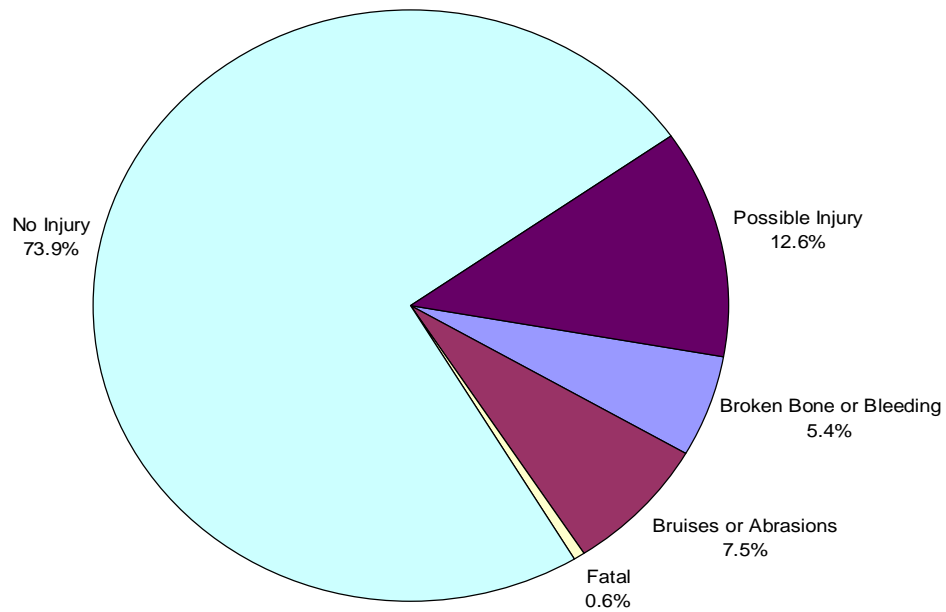
Age	S-R Property Damage Only Crashes				S-R Injury Crashes				S-R Fatal Crashes				S-R Total Crashes			
	Male Drivers		Female Drivers		Male Drivers		Female Drivers		Male Drivers		Female Drivers		Male Drivers		Female Drivers	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
<15	5	0.14%	4	0.23%	10	0.79%	6	0.84%	0	0.00%	0	0.00%	15	0.31%	10	0.40%
15 - 19	833	23.22%	482	27.54%	281	22.25%	168	23.40%	10	20.00%	2	25.00%	1124	22.94%	652	26.33%
20 - 24	801	22.33%	407	23.26%	284	22.49%	177	24.65%	8	16.00%	2	25.00%	1093	22.31%	586	23.67%
25 - 29	488	13.60%	200	11.43%	163	12.91%	77	10.72%	5	10.00%	1	12.50%	656	13.39%	278	11.23%
30 - 34	375	10.45%	150	8.57%	117	9.26%	67	9.33%	3	6.00%	1	12.50%	495	10.10%	218	8.80%
35 - 39	232	6.47%	118	6.74%	84	6.65%	41	5.71%	4	8.00%	0	0.00%	320	6.53%	159	6.42%
40 - 44	230	6.41%	124	7.09%	69	5.46%	48	6.69%	3	6.00%	1	12.50%	302	6.16%	173	6.99%
45 - 49	170	4.74%	90	5.14%	64	5.07%	36	5.01%	5	10.00%	0	0.00%	239	4.88%	126	5.09%
50 - 54	143	3.99%	67	3.83%	57	4.51%	33	4.60%	1	2.00%	0	0.00%	201	4.10%	100	4.04%
55 - 59	112	3.12%	44	2.51%	39	3.09%	27	3.76%	5	10.00%	1	12.50%	156	3.18%	72	2.91%
60 - 64	75	2.09%	24	1.37%	25	1.98%	15	2.09%	1	2.00%	0	0.00%	101	2.06%	39	1.58%
65 - 69	47	1.31%	11	0.63%	30	2.38%	5	0.70%	3	6.00%	0	0.00%	80	1.63%	16	0.65%
70 - 74	27	0.75%	11	0.63%	8	0.63%	4	0.56%	2	4.00%	0	0.00%	37	0.76%	15	0.61%
75 - 79	14	0.39%	8	0.46%	15	1.19%	9	1.25%	0	0.00%	0	0.00%	29	0.59%	17	0.69%
80 - 84	12	0.33%	2	0.11%	5	0.40%	1	0.14%	0	0.00%	0	0.00%	17	0.35%	3	0.12%
85 +	7	0.20%	2	0.11%	3	0.24%	2	0.28%	0	0.00%	0	0.00%	10	0.20%	4	0.16%
Missing	16	0.45%	6	0.34%	9	0.71%	2	0.28%	0	0.00%	0	0.00%	25	0.51%	8	0.32%
Grand Total	3,587	100.00%	1,750	100.00%	1,263	100.00%	718	100.00%	50	100.00%	8	100.00%	4,900	100.00%	2,476	100.00%

*Note: More than one driver may be speeding in a speed-related crash.

Speed-Related Crash Participants Injury Severity

Over one-quarter (26%) of speed-related crash participants were injured (Figure 8.04) compared to 21.9% of all motor vehicle crash participants (see Figure 2.03). The percentage of speed-related crash participant fatalities (1%) was higher than the percentage for all motor vehicle crash participants (0.2%).

Figure 8.04 Speed-Related Crash Participants Injury Severity as Reported by Police, Utah 2002 (n=17,138)



Section 9

2002 Occupant Protection

Occupant Protection 1993 - 2002.....	9.2
Seatbelt Use	9.3
Seatbelt Use by Age and County	9.4
Seatbelt Use by Gender, Age and Occupant Placement	9.6
Children and Restraint Use	9.8
Ejection by Seatbelt Use	9.9
Air Bags.....	9.10
Safety Restraint Laws and Recommendations.....	9.11

TABLES

Table 9.01 Seatbelt Use by Age and County, Utah 2002
Table 9.02 Seatbelt Use by Gender, Utah 2002
Table 9.03 Seatbelt Use by Occupant Placement, Utah 2002
Table 9.04 Seatbelt Use by Age Group, Utah 2002
Table 9.05 Seating Location and Restraint Status of Children Under the Age of 9 Years, Utah 2002
Table 9.06 Percentage of Seatbelt Use for Occupants Whose Air Bag Deployed, Utah 2002

FIGURES

Figure 9.01 Percentage of Drivers and Front Seat Passengers Wearing Seatbelts in Crashes and Observational Studies, Utah 1993 - 2002
Figure 9.02 Seatbelt Use for All Occupants, Injured Occupants and Fatalities, Utah 2002
Figure 9.03 Ejection by Seatbelt Use, Utah 2002

Note:

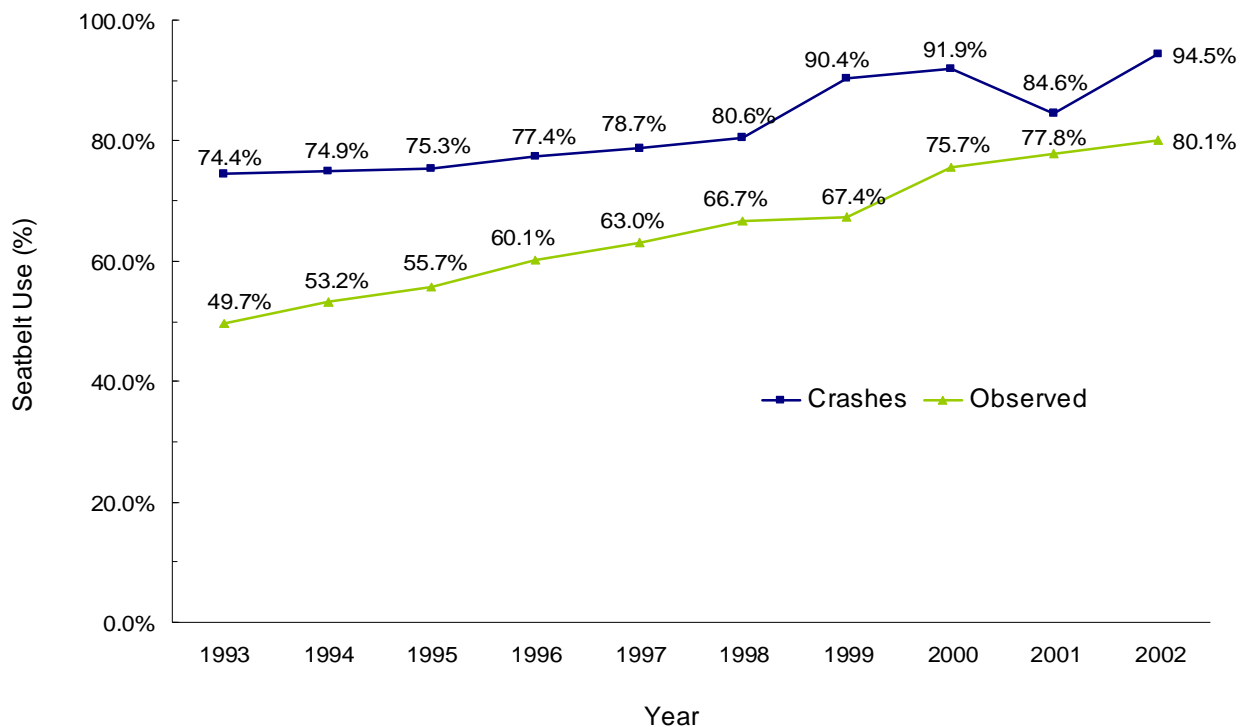
Seatbelt Use - Seatbelt use is reported for occupants in a passenger car, a light truck or van. Occupants are coded as wearing a seatbelt if they reported using a shoulder/lap belt, lap belt or a child safety seat (occupants using only a shoulder strap were reported to be unbelted) at the scene of the crash. In the majority of cases, seatbelt use as recorded by the investigating officer is self-reported by the crash occupant. It is possible that crash occupants may report using a seatbelt when they were not, in order to avoid a citation or fine, thus over-inflating the seatbelt use rate. In the case of fatal or severe injury crashes, the officer will determine the seatbelt use.

Observational Study - Each year the Utah Department of Public Safety's Highway Safety Office conducts a seatbelt usage observational study. Study sites are located throughout the state where trained observers can record seatbelt use for drivers and front seat passengers of slow moving or stopped vehicles. According to the 2002 study, 80.1% of Utah's drivers and front seat passengers were buckled up.

Occupant Protection 1993-2002

Figure 9.01 compares the percentage of seatbelt use reported in crashes to observational studies for drivers and front seat passengers. Seatbelt use by drivers and front-seat passengers has increased most years in both crash and observational studies. The difference between crash seatbelt use rates reported by crash participants or the investigating officer at the crash scene, and observed seatbelt use rates, may be due to over-reporting of seatbelt use by crash participants at the scene of a crash.

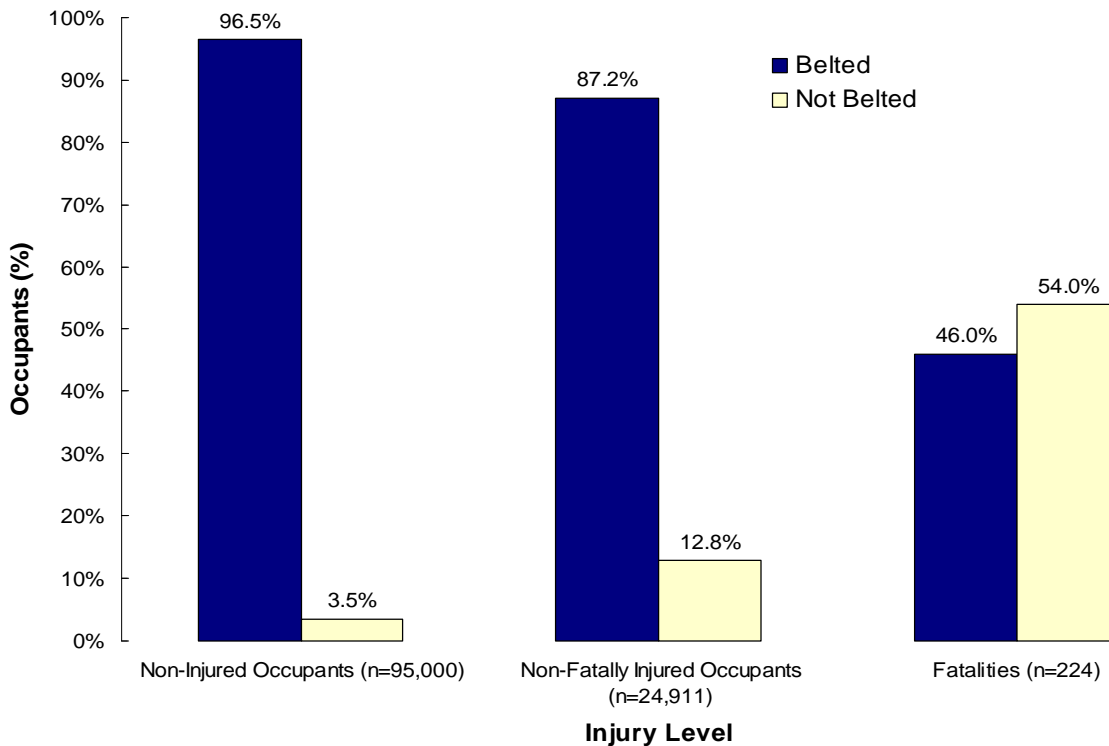
Figure 9.01 Percentage of Drivers and Front Seat Passengers Wearing Seatbelts in Crashes and Observational Studies, Utah 1993 - 2002



Seatbelt Use

Statewide seatbelt use for all crash occupants (including back seat occupants) as reported to crash investigating officers is shown in Figure 9.02. The majority (96.5%) of occupants involved in a crash and the majority (87.2%) of the injured occupants reported using a seatbelt. Only slightly more than two-fifths (46.0%) of the fatally injured occupants were belted. Seatbelts are an important safety feature; occupants who were not wearing a seatbelt were 20.4 times more likely to sustain a fatal injury than occupants who were wearing a seatbelt.

Figure 9.02 Seatbelt Use by Occupants, Utah 2002



Seatbelt Use by Age and County

Table 9.01 shows the self-reported seatbelt use of occupants by age and county. Davis County had the highest percentage of seatbelt use (96.6%), while Grand had the lowest percentage of seatbelt use (81.5%).

Table 9.01 Seatbelt Use by Age and County, Utah 2002

County	Seatbelt Use	Age Group																Total	Percent
		00-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	Unknown			
Beaver	Belted	24	26	29	97	77	52	36	32	43	33	36	21	13	38	14	571	88.3%	
	Unbelted	5	3	5	25	7	6	2	6	4	3	1	1	3	5	0	76	11.7%	
Box Elder	Belted	56	60	79	335	203	112	108	87	105	80	70	36	43	120	29	1,523	89.6%	
	Unbelted	6	7	10	57	27	10	20	6	11	4	0	5	1	5	8	177	10.4%	
Cache	Belted	226	183	166	1,159	1,035	527	310	257	277	198	176	104	118	298	46	5,080	94.4%	
	Unbelted	8	9	14	69	81	25	13	12	11	18	11	4	8	10	6	299	5.6%	
Carbon	Belted	24	15	22	162	76	60	46	41	40	61	35	31	24	48	13	698	93.1%	
	Unbelted	1	0	2	15	17	2	3	1	5	2	2	0	1	1	0	52	6.9%	
Daggett	Belted	4	0	2	9	8	5	3	1	2	8	3	1	1	1	2	50	92.6%	
	Unbelted	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	4	7.4%	
Davis	Belted	505	401	427	2,612	1,519	950	726	638	660	558	443	319	238	548	128	10,672	96.6%	
	Unbelted	10	10	15	106	72	26	23	18	25	21	13	9	9	15	4	376	3.4%	
Duchesne	Belted	12	16	16	103	72	41	25	28	40	29	22	16	17	30	5	472	90.4%	
	Unbelted	0	0	2	17	8	4	2	3	5	1	2	2	1	3	0	50	9.6%	
Emery	Belted	28	32	30	87	70	45	27	26	29	21	22	17	17	26	4	481	83.2%	
	Unbelted	2	3	7	36	18	5	9	4	7	4	0	0	0	1	1	97	16.8%	
Garfield	Belted	7	13	10	36	38	28	25	12	19	20	15	17	12	32	2	286	84.6%	
	Unbelted	1	1	6	21	1	5	1	1	1	2	3	4	1	4	0	52	15.4%	
Grand	Belted	10	12	16	43	72	32	23	23	24	22	14	10	14	32	14	361	81.3%	
	Unbelted	3	0	3	20	18	9	3	8	5	1	5	1	3	1	3	83	18.7%	
Iron	Belted	104	77	62	396	285	130	91	97	105	94	69	63	45	135	19	1,772	86.7%	
	Unbelted	7	4	16	90	58	24	14	15	8	9	5	8	3	9	3	273	13.3%	
Juab	Belted	25	25	29	82	82	37	35	30	43	31	33	18	9	50	16	545	88.8%	
	Unbelted	2	5	7	18	15	5	3	2	1	3	0	0	2	5	1	69	11.2%	
Kane	Belted	16	15	23	65	71	36	34	18	29	29	27	22	17	22	7	431	86.2%	
	Unbelted	4	5	5	19	12	6	3	2	0	5	3	0	1	4	0	69	13.8%	
Millard	Belted	36	40	34	128	108	63	52	50	44	49	43	41	32	82	10	812	90.5%	
	Unbelted	3	5	4	34	12	4	4	3	5	1	2	3	3	2	0	85	9.5%	

Table 9.01 Seatbelt Use by Age and County, Utah 2002 (continued)

County	Seatbelt Use	Age Group													Total	Percent		
		00-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64			65+ Unknown	
Morgan	Belted	10	4	6	58	34	9	15	16	16	11	7	6	6	9	3	210	85.4%
	Unbelted	0	0	7	10	4	5	1	3	1	0	0	1	2	2	0	36	14.6%
Piute	Belted	6	3	10	8	6	2	5	1	8	2	9	4	0	2	7	73	93.6%
	Unbelted	0	0	0	0	2	0	0	0	1	0	0	2	0	0	0	5	6.4%
Rich	Belted	4	6	11	37	14	11	5	8	9	4	2	3	0	5	2	121	91.7%
	Unbelted	0	0	0	3	1	0	1	2	1	1	0	1	0	0	1	11	8.3%
Salt Lake	Belted	2,272	1,601	1,515	9,532	8,285	5,514	4,261	3,453	3,309	2,807	2,273	1,497	1,089	2,400	798	50,606	96.0%
	Unbelted	56	61	88	527	403	256	155	124	109	90	55	28	31	69	53	2,105	4.0%
San Juan	Belted	17	16	24	56	42	41	45	25	23	48	30	28	20	30	9	454	87.0%
	Unbelted	2	3	7	25	5	5	3	4	0	1	2	3	2	5	1	68	13.0%
Sanpete	Belted	15	20	21	163	73	31	33	28	34	21	11	20	18	31	10	529	83.7%
	Unbelted	2	6	8	24	18	8	2	6	5	5	3	5	1	9	1	103	16.3%
Sevier	Belted	34	34	29	134	140	57	63	43	44	44	47	29	22	60	18	798	86.8%
	Unbelted	1	6	5	39	27	9	11	5	4	4	1	1	1	6	1	121	13.2%
Summit	Belted	41	66	41	253	182	143	160	140	124	120	87	58	39	62	39	1,555	92.6%
	Unbelted	4	7	5	27	21	6	7	10	11	9	6	4	0	4	3	124	7.4%
Tooele	Belted	58	37	54	276	175	103	108	78	100	69	57	49	23	45	28	1,260	91.2%
	Unbelted	5	1	3	31	22	17	10	5	11	4	6	1	1	0	4	121	8.8%
Uintah	Belted	51	28	39	181	92	69	56	40	62	32	30	24	24	45	24	797	84.1%
	Unbelted	2	3	15	47	24	13	12	8	10	7	2	3	1	3	1	151	15.9%
Utah	Belted	886	532	496	3,252	3,422	1,745	1,061	842	827	662	564	448	321	783	253	16,094	94.0%
	Unbelted	28	22	42	292	238	103	79	50	42	33	24	17	11	31	11	1,023	6.0%
Wasatch	Belted	45	21	44	176	108	87	70	59	69	59	53	47	33	66	16	953	93.2%
	Unbelted	2	0	2	22	8	8	5	1	6	6	4	1	1	3	1	70	6.8%
Washington	Belted	198	149	147	1,052	639	303	249	233	228	203	174	138	130	400	58	4,301	92.4%
	Unbelted	15	10	23	111	74	23	24	15	10	10	11	3	4	19	3	355	7.6%
Wayne	Belted	4	12	7	24	9	16	10	9	12	9	5	4	3	7	3	134	86.5%
	Unbelted	0	0	5	8	3	2	1	2	0	0	0	0	0	0	0	21	13.5%
Weber	Belted	583	414	388	2,381	1,819	1,090	895	729	741	635	517	355	247	815	144	11,753	95.5%
	Unbelted	18	28	33	114	116	64	41	33	32	23	16	12	11	14	4	559	4.5%
Statewide	Belted	5,301	3,858	3,777	22,897	18,756	11,339	8,577	7,044	7,066	5,959	4,874	3,426	2,575	6,222	1,721	113,392	94.5%
	Unbelted	187	199	339	1,808	1,312	650	452	350	332	267	177	119	103	230	110	6,635	5.5%

Seatbelt Use by Gender, Age and Occupant Placement

Female and male crash occupants reported similar seatbelt use (approximately 94%). For injured occupants and fatally injured occupants, the reported seatbelt use was greater for females than for males. However, the reported seatbelt use for fatalities was almost half of that for total crash occupants regardless of gender (Table 9.02).

Table 9.02 Seatbelt Use by Gender, Utah 2002

Gender	Seatbelt Status	Non-Injured Occupants		Injured Occupants		Fatalities		Total Occupants	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	Belted	41,207	97.1%	12,568	89.6%	53	61.6%	53,828	95.2%
	Unbelted	1,231	2.9%	1,464	10.4%	33	38.4%	2,728	4.8%
Male	Belted	50,381	96.0%	9,137	84.1%	50	36.2%	59,568	93.8%
	Unbelted	2,099	4.0%	1,728	15.9%	88	63.8%	3,915	6.2%
Total	Belted	91,588	96.5%	21,705	87.2%	103	46.0%	113,396	94.5%
	Unbelted	3,330	3.5%	3,192	12.8%	121	54.0%	6,643	5.5%
Grand Total		94,918	100.0%	24,897	100.0%	224	100.0%	120,039	100.0%

Note: Gender was not recorded for all occupants.

Reported seatbelt use did not vary substantially by seating location (Table 9.03). Among all occupants, drivers reported the highest seatbelt use compared to other seating locations.

Table 9.03 Seatbelt Use by Occupant Placement, Utah 2002

Placement	Seatbelt Status	Non-injured Occupants		Injured Occupants		Fatalities		Total Occupants	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Driver	Belted	62,275	96.8%	14,775	89.6%	69	50.7%	77,119	95.3%
	Unbelted	2,036	3.2%	1,723	10.4%	67	49.3%	3,826	4.7%
Front Seat Passenger	Belted	16,144	95.7%	4,733	84.1%	18	35.3%	20,895	92.6%
	Unbelted	732	4.3%	898	15.9%	33	64.7%	1,663	7.4%
Back Seat Passenger	Belted	13,212	95.9%	2,205	79.4%	16	43.2%	15,433	93.0%
	Unbelted	562	4.1%	571	20.6%	21	56.8%	1,154	7.0%
Total Belted		91,631	96.5%	21,713	87.2%	103	46.0%	113,447	94.5%
Total Unbelted		3,330	3.5%	3,192	12.8%	121	54.0%	6,643	5.5%
Grand Total		94,961	100.0%	24,905	100.0%	224	100.0%	120,090	100.0%

Seatbelt use varied slightly by age (Table 9.04). For total occupants, occupants in the age group of 70 - 74 years had the highest rate of reported seatbelt use (97.1%), whereas, the age group 10 to 14 years (91.8%) reported the lowest percentage of seatbelt use. Among injured occupants, the age group 70 to 74 years reported the highest seatbelt use (95.7%) and those aged 10 to 14 years reported the lowest (80.0%). For fatally injured occupants, the age group 65 to 69 years reported to have the highest seatbelt use (87.5%) and those aged 10 to 14 years the lowest (22.2%).

Although police reported seatbelt or child safety seat use rate for children under the age of 10 years was often above 80%, it does not indicate that children were properly restrained. Unfortunately, several statewide surveys have found that child safety seats are often placed incorrectly in vehicles. In addition, young children are often moved to adult sized seatbelts prematurely when a booster seat is more appropriate. (see page 9.11 for Safety Recommendations).

Table 9.04 Seatbelt Use by Age Group, Utah 2002

Age Category	Non-Injured Occupants		Injured Occupants		Fatalities		Total Occupants	
	Total	% Belted	Total	% Belted	Total	% Belted	Total	% Belted
00-04	4,851	97.6%	635	89.0%	3	66.7%	5,489	96.6%
05-09	3,397	96.8%	651	86.6%	6	33.3%	4,054	95.1%
10-14	3,261	95.0%	845	80.0%	9	22.2%	4,115	91.8%
15-19	19,724	95.5%	4,931	82.1%	47	38.3%	24,702	92.7%
20-24	15,818	95.7%	4,218	85.3%	33	42.4%	20,069	93.5%
25-29	9,385	96.8%	2,579	86.7%	16	43.8%	11,980	94.6%
30-34	7,053	97.1%	1,957	88.0%	16	31.3%	9,026	95.0%
35-39	5,812	97.1%	1,568	88.8%	12	33.3%	7,392	95.3%
40-44	5,759	96.6%	1,627	91.7%	9	55.6%	7,395	95.5%
45-49	4,868	97.2%	1,346	90.9%	13	30.8%	6,227	95.7%
50-54	3,871	97.7%	1,169	92.6%	10	70.0%	5,050	96.5%
55-59	2,708	97.6%	824	94.1%	9	55.6%	3,541	96.6%
60-64	2,053	97.5%	613	92.2%	12	66.7%	2,678	96.2%
65-69	1,523	97.4%	438	94.7%	8	87.5%	1,969	96.8%
70-74	1,269	97.7%	419	95.7%	8	62.5%	1,696	97.1%
75-79	1,026	97.0%	346	93.6%	5	60.0%	1,377	96.0%
80-84	697	97.6%	215	92.1%	4	75.0%	916	96.2%
85+	367	97.0%	121	88.4%	4	50.0%	492	94.5%
Unknown	1,558	90.4%	409	76.0%	0	0.0%	1,967	87.4%
Grand Total	95,000	96.5%	24,911	87.2%	224	46.0%	120,135	94.5%

Children and Restraint Use

The proportion of children under the age of 9 years who were reported as unbelted increased with increasing age (Table 9.05) The majority of children under the age of 2 years (86.8%) were in child safety seats in the back seat at the time of the crash, compared to 67.2% of children aged 2 to 4 years. Children under the age of 2 years were 3.3 times more likely to be in a child safety seat than children between the ages of 2 to 4 years. The majority (95.7%) of children between the ages 5 to 8 years were in the back seat belted or in a child safety seat. Child safety seat usage was highest for children in the back seat; children in the back seat were 4.2 times more likely to be in a child safety seat than children in the front seat.

Utah's Child Restraint Law requires all children under the age of 19 years to be properly restrained when riding in a motor vehicle. In addition, children age 4 years and younger must be restrained in a child safety seat (see page 9.11 for Safety Laws and Recommendations).

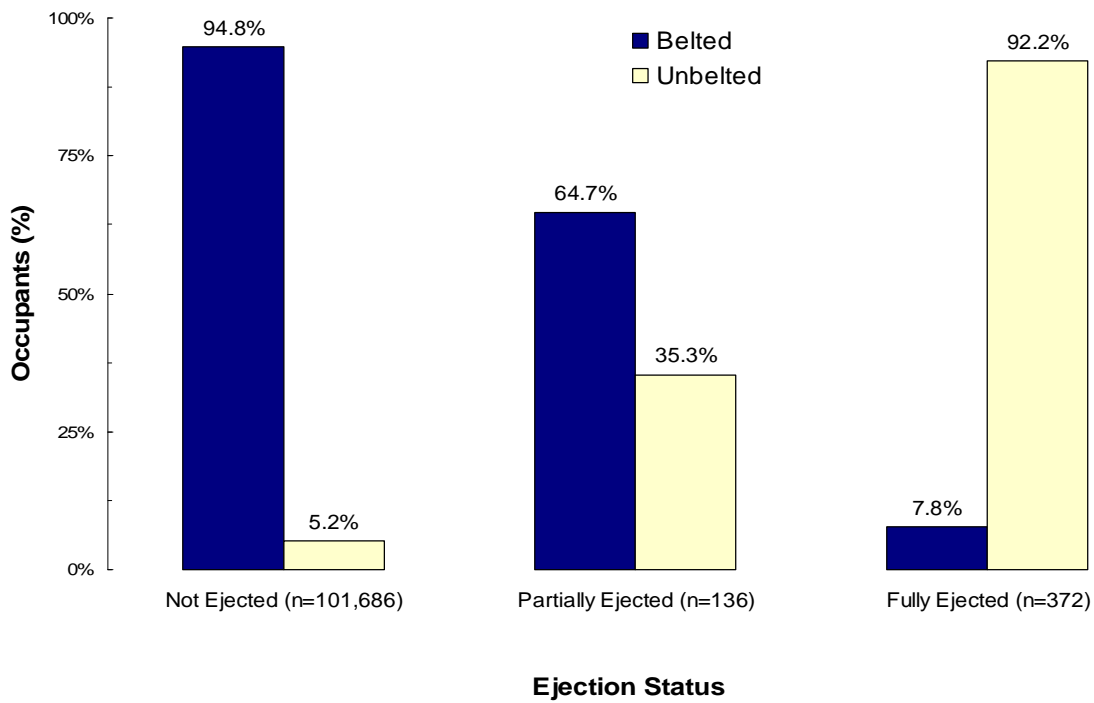
Table 9.05 Seating Location and Restraint Status for Children Under Age 9 Years, Utah 2002

Seating Location	Seatbelt Status	Ages 0 - 1		Ages 2 - 4		Ages 5 - 8		Total
		Number	Percent	Number	Percent	Number	Percent	
Back Seat	Child Safety Seat	1,594	86.8%	2,124	67.2%	344	13.2%	4,062
	Other Belted	226	12.3%	963	30.4%	2,153	82.5%	3,342
	Unbelted	16	0.9%	76	2.4%	113	4.3%	205
Front Middle	Child Safety Seat	27	75.0%	20	29.9%	5	4.1%	52
	Other Belted	6	16.7%	39	58.2%	101	82.8%	146
	Unbelted	3	8.3%	8	11.9%	16	13.1%	27
Front Right	Child Safety Seat	75	72.8%	105	42.3%	19	3.2%	199
	Other Belted	25	24.3%	131	52.8%	533	90.5%	689
	Unbelted	3	2.9%	12	4.8%	37	6.3%	52
Total	Child Safety Seat	1,696	85.9%	2,249	64.7%	368	11.1%	4,313
	Other Belted	257	13.0%	1,133	32.6%	2,787	83.9%	4,177
	Unbelted	22	1.1%	96	2.8%	166	5.0%	284
Grand Total		1,975	100.0%	3,478	100.0%	3,321	100.0%	8,774

Ejection by Seatbelt Use

Figure 9.03 shows an inverse relationship between ejection from a motor vehicle and seatbelt use. The majority (92.2%) of the occupants ejected from a motor vehicle were reported as not using a seatbelt, compared to only 5.2% of occupants not ejected from a motor vehicle.

Figure 9.03 Ejection by Seatbelt Use, Utah 2002



Air Bags

Table 9.06 shows the age of occupants whose air bag deployed and the percentage belted. A majority of the total and injured occupants whose air bag deployed were wearing a seatbelt. However, only 71.4% of fatalities whose air bag deployed were wearing a seatbelt.

Table 9.06 Percentage of Seatbelt Use for Occupants Whose Air Bag Deployed, Utah 2002

Age Category	Non-Injured		Injured Occupants		Fatalities		Total Occupants	
	Total	% Belted	Total	% Belted	Total	% Belted	Total	% Belted
00-04	12	100.0%	6	50.0%	0	0.0%	18	83.3%
05-09	4	100.0%	12	91.7%	0	0.0%	16	93.8%
10-14	11	90.9%	21	71.4%	0	0.0%	32	78.1%
15-19	169	95.3%	303	84.2%	3	33.3%	475	87.8%
20-24	220	93.6%	279	86.4%	3	66.7%	502	89.4%
25-29	83	96.4%	160	89.4%	2	100.0%	245	91.8%
30-34	73	93.2%	118	93.2%	0	0.0%	191	93.2%
35-39	47	100.0%	80	91.3%	1	100.0%	128	94.5%
40-44	44	95.5%	93	97.8%	2	50.0%	139	96.4%
45-49	38	100.0%	54	94.4%	1	100.0%	93	96.8%
50-54	23	100.0%	77	90.9%	1	0.0%	101	92.1%
55-59	22	95.5%	47	95.7%	3	66.7%	72	94.4%
60-64	21	100.0%	32	93.8%	0	0.0%	53	96.2%
65-69	17	100.0%	24	95.8%	1	100.0%	42	97.6%
70-74	11	100.0%	35	97.1%	2	100.0%	48	97.9%
75-79	15	93.3%	35	91.4%	0	0.0%	50	92.0%
80-84	5	80.0%	23	87.0%	1	100.0%	29	86.2%
85+	2	100.0%	7	42.9%	1	100.0%	10	60.0%
Unknown	14	92.9%	11	100.0%	0	0.0%	25	96.0%
Grand Total	831	95.5%	1,417	89.0%	21	71.4%	2,269	91.2%

Safety Restraint Laws And Recommendations

Safety Restraint Use Law

Utah law requires all motor vehicle occupants to be wearing a seatbelt when traveling in a motor vehicle. The purpose of this law is to protect Utahns from needless death and injury and reduce taxpayer costs resulting from traffic collisions. The law is a secondary law which means a person may be issued a citation only when the police officer has stopped the vehicle for another reason. Any person who violates this law is subject to a fine of \$45, reduced to \$15 upon completion of a traffic safety educational class. Exceptions to the law include, delivery personnel, rural letter carriers, persons driving vehicles used for farm purposes, individuals in motor vehicles manufactured before July 1, 1966, and individuals with physically disabling or medical condition which would prevent appropriate use of a safety belt. Visitors from outside Utah are also required to wear a seatbelt when traveling in Utah. The law is primary for drivers and passengers under age 19 years. Children age 4 years and under must ride in an approved child safety seat and children aged 5 to 19 years must ride in an approved child safety seat or seatbelt. This is a primary law which means a law enforcement officer can stop a vehicle if he/she notices children are not properly restrained. A fine can be issued solely for not restraining a child under the age of 19 years and violators will be subject to a fine of not more than \$45. The first offense shall be dismissed if the driver shows proof of acquiring a child safety seat or seatbelt. The driver is responsible for unrestrained occupants under the age of 16 in the vehicle, whether or not they are the parents of the unrestrained child.

Child Safety Seat Recommendations

- Infants should be placed in a rear facing child safety seat until they are at least 20 pounds AND 1 year of age.
- Children over 1 year of age weighing 20 - 40 pounds should ride in forward facing child safety seats.
- Older children (approximately 4-8 years of age) should ride in belt-positioning booster seats until they are approximately 80 pounds and can use an adult-size lap and shoulder belt system.
- Avoid using secondhand child safety seats especially if it does not have the original instruction booklet, if it has been used in a crash, if it does not have the manufacturer's date and model number on it, or if it is more than six years old.
- If your car has lap/shoulder combination belts, it could be critical to use a locking clip to properly secure your safety seat to the car. Consult the vehicle owner's manual.
- The safest place for any child age 12 and under is in the back seat of the vehicle.
- Children should never be held on an adult's lap. The force of the collision would tear a child from the adult's arms. If the adult is not wearing a safety belt, the child could be crushed between the adult's body and the dashboard.

Seatbelt Recommendations

- Always use both the lap and shoulder belt. When worn properly, the shoulder belt should fit across the collar bone and the lap belt should fit low over the hips.
- Never place the shoulder strap under your arm or behind your back.
- Use belt-positioning booster seats for children who have outgrown their toddler safety seat (at about 4 years of age and 40 pounds). Booster seats help position an adult-size seatbelt for a safer fit on children.

Air Bag Safety Recommendations

- NEVER place a rear facing child safety seat in the front seat of a vehicle with a passenger side air bag.
- Place children age 12 years and younger in the back seat in an age and size-appropriate child safety seat or seatbelt.
- If you are the driver, keep 10 - 12 inches between you and the steering wheel.
- Move the front passenger seat as far back as possible.
- Shorter drivers, who cannot get 10 inches from the steering wheel and still comfortably reach the pedals can purchase pedal extender (call (813) 932-8566 for more information).
- Air bags are "supplemental" to seatbelts. Be sure you and your passengers use both the lap and shoulder portion of the seatbelt and children ride in appropriate child safety restraints in the back seat.
- If you MUST disconnect your vehicle's air bag contact Utah Highway Safety at (801) 293 -2480 or log onto the National Highway Traffic Safety Administration website at <http://www/nhtsa.dot.gov> for information.